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ORIGINAL COMMUNICATIONS.

ARTICLE I.

SOME REMARKS ON THE VALUE OF PERMANGANATE OF POTASSIUM IN AMENORRHŒA.

By EDMUND J. DOERING, M. D., *Chicago.*

[Inaugural Thesis, read before the Chicago Gynecological Society, March 20th, 1885.]

Although several years have elapsed since Drs. Ringer and Murrell first introduced permanganate of potash, as an emmenagogue, to the profession, there is yet a feeling of uncertainty as to its true value. I presume this is partly due to the difficulty of determining in any given case, whether the reappearance of the menses is due to the remedy given or due to natural causes; and on the other hand, one or two failures with a new remedy will generally cause the physician to abandon its further use. It is therefore only by carefully conducted clinical observations, and by the accumulated experience of those who have given this remedy a fair trial, that it can be finally determined whether permanganate of potash is or is not an efficient emmenagogue. According to the U. S. Pharmacopœia, permanganate of potash occurs in deep-purple,

violet, or nearly black needle-shaped rhombic prisms of a metallic lustre, permanent in the air, odorless, having a sweet, afterward disagreeable, astringent taste, and a neutral reaction. It is soluble, with the exception of a scanty brown residue, in twenty parts of water at 59° Fahr. and in three parts of boiling water.

It is remarkable for the quantity of oxygen which it contains and for the readiness with which it yields it up, and upon this chemical fact its use is based, both as an internal and external remedy. On the other hand, this very fact is claimed by chemists as an absolute proof that it is utterly useless when administered by the stomach.

Bartholow, who has great faith in this drug, claims that, although it parts with great readiness with its oxygen, this readiness is *not* sufficiently great to prevent the distribution of this gas into the blood. His opponents deny this, and argue that the organic matter contained in the stomach and mucous membranes is sufficient to appropriate the oxygen of the salt and thus prevent its entrance into the circulation.

Desiring further light upon this matter, I requested Professor N. Gray Bartlett, the well-known chemist, to give his views, which he courteously consented to do. His opinion is as follows:

"From the readiness with which the permanganate of potssium is decomposed by organic compounds, it would seem to be ineligible for internal use. When so administered, it is immediately brought in contact, in the stomach, with a relatively large amount of organic matter, and must, necessarily, be very rapidly destroyed, the manganese of the permanganate separating, in all probability, in the form of the hydrated manganese dioxide. The latter compound is an active oxidizing agent, and is possibly capable of exercising in the economy the oxidizing function which has been ascribed to the permanganate of potassium. It would seem rational, therefore, antic-

ipating the change which follows the administration of the permanganate, to substitute for the latter the hydrated manganese dioxide, which can readily be prepared in a state of purity for medicinal use."

Whatever view may be adopted of the chemical changes which the permanganate undergoes in the human economy, the main question is as to its therapeutical value. Professor Thomas, in a recent address to the New York State Medical Association, says: "Permanganate of potash, as an excitant of the menstrual flow, is, I think, the best emmenagogue which has yet been discovered. Drs. Ringer and Murrell recommend this remedy in amenorrhœa, depending on torpor, anæmia and deficient activity of the menstrual apparatus, it being contra-indicated when acute congestion or a general condition of sthenic reaction exists. They recommend it to be given in doses of one grain first, to be gradually increased to two grains four times a day, as near as possible to the regular date of menstruation, and continued for three or four days. I may say, right here, that in every case in which I have administered the drug in this manner, it has proven useless. I have given the permanganate of potash a careful trial, having used it in about thirty cases of amenorrhœa, depending on anæmia and general atony of the sexual apparatus. Of this number, I have eliminated about one-half, in the subjoined table, the action of the remedy not having been satisfactory, from various causes, such as inattention to the general directions, want of perseverance in taking the medicine, etc., so that the actual number of cases on which my conclusions are based, is narrowed down to fourteen, in each of which, however, the cause of the amenorrhœa was entirely clear, the remedy carefully and continuously given, and the effect closely observed. In order to be brief, I have grouped these cases in the following table, instead of giving the history of each case at length:

Case.	Age.	Single or Married.	Cause of Amenorrhœa.	Length of time Catamenia abs.	Remedy, How Administered.	Results.	Remarks.
I.	16	S.	Anæmia.	4 months.	1 gr. 3 p. d.	Failure.	Remedy given for one week at date of expected menstruation for two consecutive months. Menses appeared finely under a course of iron tonics.
II.	17	S.	Anæmia.	2 months.	1 gr. 4 p. d.	Failure.	Similar result as above.
III.	19	S.	Anæmia.	3 months.	" "	Failure.	" "
IV.	26	M.	General atony.	3 months.	2 gr. 3 p. d.	Success.	Remedy taken for three weeks.
V.	20	M.	Anæm. fr. nursing.	4 months.	" "	Success.	" " one month.
VI.	40	S.	General atony.	3 months.	2 gr. 3 p. d.	Failure.	Remedy taken every alternate week for six weeks. Three weeks after discontinuing remedy, menses appeared.
VII	17	S.	" "	2 months.	1 gr. 3 p. d.	Failure.	Remedy given at expected period for two months.
VIII.	18	S.	Anæmia.	2 months.	2 gr. 3 p. d.	Success.	Remedy taken for two weeks.
IX.	29	M.	General atony.	3 months.	2 gr. 3 p. d. Later, 4 gr. 3 p. d.	Success.	Three weeks, two grains three times a day—no result. Finally, four grains three times a day, successful in one week. Next period again missed. At the expected period following, the drug given in four grain doses for one week, successful. Since then, period regular.
X.	18	S.	Anæmia.	5 months.	2 gr. 3 p. d.	Success.	Remedy given two weeks.
XI.	32	M.	Gen.atony fr.nurs'g.	2 months.	3 gr. 3 p. d.	Success.	" "
XII.	21	S.	Anæmia.	6 months.	1 gr. 3 p. d.	Failure.	Remedy given two weeks at two different periods. Suspicion of phthisis. Later, iron and cod liver oil, successful.
XIII.	32	M.	G. a. in obese person.	2 months.	2 gr. 3 p. d.	Success.	Remedy given every alternate week for six weeks.
XIV.	25	M.	Anæmia following nursing.	3 months.	2 gr. 3 p. d. Later, 4 gr. 3 p. d.	Success.	The large dose proved successful, after ten days' administration.

Note.—In all but two of the above cases, the remedy occasioned more or less epigastric pain, substernal pressure and colicky pains.

Conclusions.—I. Permanganate of potash, in doses of from two to four grains, is an efficient emmenagogue, if administered for a period of not less than two weeks.

II. Its administration in doses large enough to be effectual is accompanied by severe pain, which frequently necessitates a discontinuance of the remedy, and hence impairs its value as an emmenagogue.

III. The most efficient method of administering the drug is in capsules, taken midway between meals, and followed by large draughts of some pure mineral water, like silurian.

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ARTICLE II.

THE INFLUENCE OF CIMICIFUGA RACEMOSA ON PARTURITION.

By J. SUYDAM KNOX, A. M., M. D., *Adjunct Professor of Obstetrics and Diseases of Children, Rush Medical College.*

[Read before the Chicago Gynecological Society, March 20, 1885.]

Cimicifuga racemosa is no new drug. Ever since the paper of Dr. Young, in 1831 (*Amer. Jour. Med. Sci.*, vol. 9), black cohosh has been largely used by American practitioners.

On reviewing the literature of the subject, quite uniform testimony is found from eclectic, homœopathic and regular physicians, as to the sedative and anti-spasmodic action of the drug. This testimony is strongest among eclectic physicians, but is sufficiently voluminous among regular prescribers to command attention.

This clinical proving asserts the positive value of cimicifuga in chorea, spasmodic cough, congestive amenorrhœa and

dysmenorrhœa, and in rheumatism. Eclectic physicians in addition claim for it oxytocic properties, recommending it as a substitute for ergot (King & Lloyd's Amer. Dispens., 15th Edit.)

It is surprising that the physiological action of a drug so long and widely used has not yet been ascertained, and its special therapeutic value determined.

About three years ago I first commenced to use cimicifuga racemosa in obstetric practice, my attention having been called to it by an obstetrician of large experience of this city. He stated positively that the use of black cohosh, on account of its favorable influence on labor, had shortened his average attendance in the lying-in room at least two hours.

I at first prescribed the drug to all cases that I was called upon to attend, but later, on account of certain precipitate labors, only to primiparæ, and those multiparæ, who had a previous history of dystocia.

My cases number 150: 57 primiparæ and 93 multiparæ. Considering labor as commencing as soon as pains are regular, its average duration among primiparæ was six and one-fourth hours, and among multiparæ exactly three hours.

Considering the second stage of labor as beginning with full dilatation of the external os, its average duration among the primiparæ was one hour and forty-five minutes, and among the multiparæ only twenty-seven minutes.

In reviewing my notes of the above 150 cases, I have come to the following conclusions:

1. Cimicifuga has a positive sedative effect upon the parturient woman, quieting reflex irritability. Nausea, pruritus and insomnia, so common in the last six weeks of pregnancy, are always bettered, and often disappear, under its administration.

2. Cimicifuga has a positive anti-spasmodic effect upon the

parturient woman. The neuralgic cramps and irregular pains of the first stage of labor are ameliorated, and often altogether abolished. In fact, during the first indiscriminate use of the drug in all cases, I had the mortification, with a few women, of terminating the labor so precipitately, and without prodromic symptoms, as to be unable to reach the bedside before the birth.

3. Cimicifuga relaxes uterine muscular fibre and the soft parts of the parturient canal, by controlling muscular irritability, thus facilitating labor and diminishing risks of laceration.

4. Cimicifuga increases the energy and rhythm of the pains in the second stage of labor.

5. It is my belief that cimicifuga, like ergot, maintains a better contraction of the uterus after delivery. It is my habit, however, to administer 15 to 30 minims of fld. ext. ergot after the birth of the fœtal head, and I have had but few opportunities of testing this effect of the cohosh.

To illustrate the above propositions, the following cases are cited:

Case 1.—Mrs. S. Second labour. First labour protracted through two days. Finally puerperal eclampsia and a forceps delivery. November 17, 1884, consulted me for uterine neuralgia, with insomnia and pruritus. Prescribed fld. ext. cimicifuga, 15 minims night and morning. Urine, normal. Complete relief of bad symptoms followed. Normal labour occurred six weeks thereafter. Second stage, forty-five minutes.

Case 2.—Mrs. B. Second labour occurred December 23, 1884. Eighteen months before I attended her in her first labour, which lasted nine hours, and finally used forceps. She had refused to take cohosh. She cheerfully took the drug the last four weeks of her second pregnancy. Pains came on without prodromic symptoms, and the babe was born before my arrival, fifteen minutes after the first indications of labour.

Case 3.—Mrs. C. Fifth labour, November 20, 1884. As all previous labours had been instrumental, I gave cohosh night and morning for six weeks before confinement. She evidently got too much of the drug, for a week before delivery I was sent for on account of bearing down without pains, and found the os dilated fully three inches. This condition existed seven days, when the waters broke for want of support, and labour came on and was terminated in ninety minutes.

Case 4.—Mrs. K. Third labour, February 11, 1884. Two previous labours tedious and instrumental. Took cohosh each night for four weeks before present labour. First stage, three hours; second stage, thirty minutes; delivery normal.

Case 5.—Mrs. L. Third labour, January, 1885. First labour, ninety hours; second labour, forty-five hours, and delivery instrumental. Took cohosh, on account of an error in calculation, each night for two months before third labour. Like case 3, she took too much of the drug, and three days before labour I was called to see her on account of bearing down without pains. Found the os widely dilated and membranes protruding. Labour came on suddenly the third day thereafter, and delivery occurred within an hour after the pains set in.

Case 6.—Mrs. R. Second labour, February 22, 1884. First labour, three years before, was extremely tedious in its first stage, lasting forty hours, with extreme pain before the os dilated. Second labour, under the influence of cohosh, came on without prodromes, and was accomplished within an hour.

Case 7.—Mrs. D. First labour. Under a dread of pain, she took twice the quantity I ordered, for two weeks before delivery. Labour came on precipitately, and the child was born in forty-five minutes.

I might enumerate a score of cases, were it not a tedious repetition.

My method of administration has been to give 15 mimins of the fld. ex. of cimicifuga in co. syr. of sarsaparilla each night for four weeks before the expected confinement.

One fluid ounce of the fluid ext. cimicifuga to three fluid ounces co. syr. sarsaparilla; dose, one teaspoonful, makes just the required quantity.

ARTICLE III.

TWO INTERESTING CASES IN OBSTETRICS.

By CHARLES CALDWELL, A. M., M. D.

[Inaugural Thesis read before the Chicago Gynecological Society, Feb. 20th, 1885.]

CASE I. ANTE-PARTUM HÆMORRHAGE, CAUSED BY ACCIDENTAL SEPARATION OF THE PLACENTA.

Mrs. B——, German, aet 45, and pregnant with her eleventh child, was awakened at 1 a. m. Sept. 19th, 1884, by an acute pain in the epigastric region, followed by a perfect gush of blood from her vagina. A neighbor midwife was called, but became frightened at the profuse hæmorrhage and advised that a physician be sent for. I reached the house at 3 A. M. The midwife said she had been in attendance an hour, and had removed several sheets and quilts which were saturated with blood.

Fearing placenta prævia, I made an examination at once. The os was dilated the size of a silver dollar, but the head, which was presenting, was high up and not yet engaged. The membranes were still intact. I passed my finger up into the uterus, and found it was not even a case of placenta prævia marginalis. The uterine contractions were weak and ineffective, but the pain in the epigastric region still acute and incessant.

She said her suffering was greater than at any previous confinement, and very different; this was more like colic pain.

Her husband is a grocer, and she had been assisting him in the store during her period of gestation, handling boxes and baskets of heavy vegetables and fruits.

I diagnosed the case one of partial or complete detachment of the placenta, brought about by lifting some large, heavy body, which she had pressed against her abdomen. For we know washerwomen often bring on miscarriage by lifting their heavy tubs.

I gave ergot immediately, and pressed on the fundus with the left hand, to force the head down into the pelvis, and thus check the hæmorrhage, while with the right I dilated the os. The uterus did not respond readily to the ergot, for the contractions did not increase in strength or frequency, and a domestic remedy was tried. A bag of hot salt, four inches wide by twelve inches long, was applied to the spine. Whether the salt deserves the credit by its stimulating effect, or the ergot was tardy in its action, I am unable to say, but within twenty minutes after the application of the salt, the uterine contractions had so increased in force, that the head had descended and become engaged, stopping the hæmorrhage.

Pains were now regular and strong, completing the second stage of labour in half an hour. The membranes were not ruptured until ten minutes before the fœtus was expelled.

The second and third stages of labour were completed together, and the maternal surface of the placenta was covered with a dark, thick blood clot, showing it had been detached some time. The child was still-born. From the history of this case, it comes under class (b) as described by Dr. Goodell, in his monograph on "CONCEALED ACCIDENTAL HÆMORRHAGE OF THE GRAVID UTERUS," where the placenta is so detached as to allow the blood to escape behind the membranes into the uterine cavity. After the uterus had expelled its contents it con-

tracted well, and gave my patient no more trouble, which was very fortunate for her. She was safely through her parturition, but by no means out of danger, for the hæmorrhage had been so profuse that it left her exsanguinated and exhausted.

The third day after her confinement, diarrhœa set in, and for ten days she passed copious involuntary stools. Opiates and astringents of various kinds and combinations were exhibited with very little effect. She was able to retain liquid nourishment at all times, and took her milk and mutton broth every two hours, in addition to a pint and even as much as a quart of brandy every twenty-four hours. At the end of two weeks she began to improve slowly, but was not able to leave her bed for a month. Her temperature was never above 101°, and there was no tympanites. The lochial discharge was normal, stopping at the twentieth day. The heart's action was weak and rapid, owing to her very anæmic condition. She is now enjoying as good health as usual, and assisting her husband in his grocery.

CASE 2. BREECH PRESENTATION WITH AN UNUSUAL COMPLICATION.

I was called, Dec. 27, 1884, at 4 A. M., to attend Mrs. C——, who was in labour with her eighth child. She was a French Canadian, aet 31, married at the age of fifteen, and was strong and healthy.

On my arrival, she told me "she had been in labour two hours and that the waters had broken before she had her first pain."

As soon as I could warm and disinfect my hands, I made an examination. The os was dilated to the size of a small door-knob, soft and patulous.

Both feet were presenting and protruding through the os. By passing the index finger up into the uterus, above the brim,

the tuberosities of the ischia, vulva and anus of the fœtus could be felt to the right of the median line. By palpation the knees could be felt above the brim on the left. The fœtus seemed to be seated on the right brim of the pelvis with her knees resting on the left, sticking her feet down through the os uteri for the accoucheur to seize hold of.

That this peculiar and unique position was an impediment to labour, no one can doubt, if the diagram is a correct one.

Whether the second stage of labour could have been completed without assistance it is impossible to say, but I think not.

The *liquor amnii* had all escaped, so I dilated the os with my hand, completing the first stage of labour as quickly as possible. By bi-manual manipulation I changed the position of the

fœtus, so that it was possible to bring down the feet, in the following way:

I introduced my right hand into the vagina, and the index and second fingers into the uterus; placing the ends of the fingers against the tuberosities of the ischia, I made pressure upwards and to the right, while with the left hand over the fundus uteri, I made pressure on the occiput of the fœtus, forcing the head downwards and to the left. Holding the fœtus in its new position with the left hand, I easily brought down the feet with my right. While I was delivering the body of the fœtus, I asked one of the attendants to warm a towel to wrap around the child while I was delivering the head, expecting some delay, for it was quite large. As I was in the act of wrapping the towel around the child, the mother, with one mighty muscular effort and a scream, expelled the head, making me feel happier than any one present except the mother.

I never saw a woman who had as much expulsive power as this one.

I attended her three years ago, when her seventh child was born, and she was in labour only twenty minutes, having but four pains.

When I made the first examination, she asked me "if her baby was in a natural position," and upon being told it was a foot presentation, she said, "she had been afraid something was wrong, for she had felt the movement of the child on the left side, while with all the others it had been on the right. She left her bed the third day after her confinement (not by my advice), and has been doing all of her work since. In examining the various obstetric works at my command, I have failed to find the report of a case with this peculiar complication.

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ARTICLE IV.

CASES OF CHANCRE OF THE EYELID AND OF THE CARUNCLE.

Reported to the CHICAGO OPHTHALMOLOGICAL AND OTOLOGICAL SOCIETY. *By* E. L. HOLMES, A. M., M. D., *Professor of Diseases of the Eye and Ear, Rush Medical College.*

I have observed three cases in which the initial lesion of syphilis was located on the lids, and one in which it was on the caruncle. The infrequency of the location, and the occasional difficulty in the diagnosis, add to the interest of such complications. I have retained the history of but two of the cases, in which the lid was involved.

In 1865, Mr. M., 63 years of age, came to me with a characteristic ulcer of the left upper lid, which had slowly increased in size for a month, until it had destroyed a large triangular portion of the free border of the lid through the cartilage and integument.

The indurated and elevated edges were characteristic, and rendered a diagnosis almost certain at the first glance.

The pre-auricular glands were slightly enlarged and tender. The patient would not admit any known exposure. By the use of calomel locally, and *pilula hydrargyri* internally, the ulcer healed speedily, leaving a large notch in the lid. Although the patient was urged to continue the remedies many months, he returned at the end of three months with characteristic appearances of the throat and integument.

The second case presented complications which obscured the diagnosis. A young man, about 30 years of age, while employed in rolling rails, received a "flash," which burned his left side and arm, and also his upper lid, a drop of hot slag having been received in the fold of the integument, and held in place by a spasm of the orbicularis and muscles of the face.

A few days after the accident, the lid was found to be red,

and much swollen, presenting a dark-colored round spot, about a quarter of an inch in diameter, resembling a deep burn, (moxa).

I informed the patient that he would probably soon recover without much, if any, deformity of the lid, and simply prescribed vaseline dressings. In a few days the eschar was thrown off, leaving quite a deep ulceration on the swollen lid. I saw the patient at the end of two weeks, and was surprised to observe how little tendency there was for the ulcer to heal. At the end of two weeks more, there was no special change. There was the same amount of swelling and ulceration. My attention, however, was not attracted to anything characteristic in the lesion.

After three weeks, the general swelling of the lid began to recede, while the ulcer showed hard elevated edges—symptoms which might arouse the strongest suspicions. My colleagues at the Eye and Ear Infirmary, to whom I submitted the case for examination, concurred in the opinion that the ulcer was true chancre. The patient presented no evidence of infection, either on the genitals or other portions of the integument, and was unable to explain the complication. The pre-auricular and cervical glands were overlooked.

I must confess I am unable to form an opinion regarding the time when the burn became infected, or at what time a more experienced observer would have detected the dangerous nature of the affection.

It was decided, inasmuch as the ulcer was not encroaching on the free border of the lid, to continue palliative treatment and await developments. After ten days, characteristic roseola appeared, when the calomel was prescribed locally for the ulcer and *pilula hydrargyri* internally. The ulcer soon healed, with scarcely any deformity of the lid.

In the summer of 1882, a young physician came casually under my observation, while he was under the treatment of Dr. Montgomery. Subsequently he came temporarily under my care during the absence of Dr. M. For about four weeks there was simply an inflammation of the ocular conjunctiva at the internal angle, especially implicating the caruncle. This was very red and hypertrophied, with no appearance at any time of ulceration. The caruncle was in the condition of enlargement not unfrequently seen in certain cases of acute conjunctivitis. After three weeks, the pre-auricular and cervical glands became noticeably tender and enlarged. I had not the slightest suspicion of local infection, but, without questioning the patient, entertained the possibility that the local trouble was rebellious to treatment in consequence of constitutional infecfection, and urged the use of mercurials. The patient took *hydrargyri bichloridum* for a short period with benefit, but abandoned it. Professor Hyde, whose opinion was now sought, pronounced an unqualified opinion that the swelling of the conjunctiva was the primary lesion of syphilis, and verified his diagnosis by discovering characteristic eruption on the body. Simple treatment relieved the local as well as the general symptoms.

Years ago I enjoyed the best of opportunities to study the initial lesion of syphilis. During the past eighteen years I have not, I think, observed a single case in addition to those here reported, and consequently for a time was entirely off my guard in the last two cases. These certainly presented difficulties of diagnosis, and could well deceive any one not accustomed to observe chancre in unusual localities with unusual aspects.

The difficulty would probably be reduced to the minimum if the practitioner would carefully examine the condition of the nearest lymphatic glands, and from time to time inspect the surface of the body.

The lymphatics in the vicinity of the chancre are nearly always tender and enlarged. The converse of this, however, is not true, for large benign abscesses of the upper lid, near the external angle, are very liable to affect the pre-auricular glands.

In view of possible danger to friends surrounding a patient with chancre of the eye, early diagnosis and treatment are matters of exceeding importance. Any obscure indurations on the eye or its appendages, with inflammation, accompanied by an affection of the glands near, should receive most careful investigation.

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EDITORIAL.

IRRESPONSIBLE OPINION.

An editorial appeared in the columns of the *Chicago Daily Tribune*, on Sunday, March 15, 1885, which criticised the medical and surgical treatment of General Grant's case in unmeasured terms.

After referring to the alleged illiberal spirit displayed by the physicians in charge, in the exclusion of the "Cancer Specialist," recommended by Mr. Elkins, from consultation, the author hurls the usual stereotyped anathemas at medical science in general and physicians in particular. The editorial reminds us vividly of the heated newspaper discussions of the surgical treatment of President Garfield's case. Our readers will probably remember the extreme coolness with which the *New York Herald* suggested the propriety of deciding upon measures of treatment through the medium of mass-meetings.

An article in the March number of *Macmillan's Magazine* contains some excellent remarks, addressed more particularly to newspaper strategists, but applicable, with equal force, to people generally, who speak with positiveness about things of which they have no knowledge.

The remarks might be addressed to newspaper physicians and surgeons, and particularly to our contemporary of the *Tribune*, who makes use of the "familiar provincialism" aptly described by the author of the article in *Macmillan's Magazine*. The writer says:

"There is a familiar provincialism used in deprecation of

such self-praise as is felt to be inevitable, 'Though I say it as shouldn't.' Might not this formula be extended to all such enforced judgments as I am contemplating? as thus, 'I am decidedly of the opinion that the attack at Tel-el-Kebir should have begun an hour earlier than it did, but seeing that I have been engaged all my life in the manufacture of small-clothes, and that although a volunteer I have never seen active service, 'I say it as shouldn't,'—Sir Garnet being so much more likely to be right than I.'"

And also:

"We cannot all be expected to emulate the sobriety of that Parisian bootmaker, a hero of fable—I am afraid—who on being asked his opinion of the respective merits of Turenne and the Grand Condé on the same stricken field, replied: 'I made the boots of both gentlemen; as far as boots go there is not a pin to choose between them; beyond that I cannot go, for it lies outside of my profession.'"

AN EASY METHOD OF EXTERNAL PELVIC MEASUREMENT.

At the meeting of the New York Obstetrical Society, October 7th, 1884, (*The New York Medical Journal*, February 7th, 1885), Dr. Murray reported a case of Cæsarean section.

"When Dr. Murray was called, the patient was almost moribund, the child's head was fixed, and the position was such that the diameters of the pelvis could not be taken." "The point to which Dr. Murray wished to call attention was the difficulty, under the circumstances, of making out the diameter of the superior strait."

Professor Alex. J. C. Skene, M. D., reports "A Successful Case of Laparo-elytrotomy," in the *Annals of Surgery*, January, 1885. "On examination, the doctor found a vertex presentation of a fully developed child, while the antero-posterior diameter of the superior strait was estimated by him at less than two inches."

"As it was clearly evident that the delivery of a living child through the natural passages was an impossibility, and as we both further believed the mother's chances would be better if subjected to laparo-elytrotomy than if craniotomy were to be attempted, we advised the abdominal section."

In Dr. Murray's case, apparently no attempt was made to measure the pelvis. In Dr. Skene's case, "the doctor" found "the antero-posterior diameter of the superior strait was less than two inches."

In both cases, the indications for operation are clearly left indeterminate, so far as the general reader is concerned.

All who are familiar with Dr. Murray's sagacity, and Professor Skene's sound judgment, will be inclined to believe that the operation was indicated in each case. But such belief will rest upon the confidence reposed in the two surgeons, and not on positive evidence. Medicine, however, is not a matter of sentiment.

The two cases, to which allusion has just been made, have absolutely no scientific value, as bearing upon the indications for the operation, and a grave injustice is inflicted upon the reading medical world.

Apart from the natural regret that so much valuable material and labor is practically lost, the omission of accurate pelvic measurement excites wonder and surprise, at a time when approximately exact methods exist, and can be found in the modern text-books on midwifery.

The laborious investigations of Baudelocque, Litzmann, Michaelis, Dohrn, Nägele, Kiwisch, and a host of others, are totally disregarded.

Nor is it at all essential to measure by internal digital methods the antero-posterior diameter of the inlet.

By means of the sculptor's caliper-compasses of Baudelocque,

(1784), it is possible to determine the distance between the anterior-superior iliac spines, iliac crests, great trochanters, spine of last lumbar vertebra and the symphysis, or the *conjugata externa* s. *Baudelocqui.* From such data, it is possible to estimate with approximate accuracy the dimensions of the large and small pelvis.

We desire to call attention particularly to the simple and ingenious method of external pelvic measurement, suggested by Kiwisch in 1851.

The external circumference of the pelvis in living women, measured by means of a tape, applied to the extremity of the spine of the last lumbar vertebra, carried midway between the iliac crest and the great trochanter to the symphysis, and back to the starting point, has an average of ninety ctm. The development of the *panniculus adiposus* and the slender character of the bones exercise little influence upon this circumference. For every diminution of five ctm. in this circumference, it has been found that the antero-posterior diameter of the superior strait is diminished in length by one ctm.

Thus, an external pelvic circumference of 90 ctm. means a true conjugate of 11 ctm.; 85 ctm., 10 ctm.; 80 ctm., 9 ctm.; 75 ctm., 8 ctm.; 70 ctm., 7 ctm.; 65 ctm., 6 ctm.

Coxalgia and luxations of the hip joint, invalidate the method, for obvious reasons. None of these pathological conditions existed in the cases of Dr. Murray and Professor Skene.

Kiwisch's method has been subjected to continual application, since its introduction, in all the larger lying-in hospitals of Continental Europe.

Reliance is placed upon it particularly by Professor Carl Braun, of Vienna. It will be remembered that Professor Carl Braun has performed more Cæsarean sections than any living

obstetrical surgeon. The number of Cæsarean sections in Vienna may be explained by the fabulous number of women, confined in the *Allgemeines Krankenhaus*, and the social condition of the peasant class.

SANITARY INSPECTION. "CLEANLINESS IS THE BEST PROTECTION AGAINST CHOLERA."

The system of house-to-house inspection inaugurated in this State by the State Board of Health, must result in good, even if but imperfectly carried out. It is very true that "knowledge of defects and evils is the first step toward their remedy," and the information gained by the laity by this inspection, in many parts of the State, will come as a revelation to a large number of people who have given little, if any, attention to the subject of sanitation. The efforts, so far, of sanitarians have been made chiefly where there are large aggregations of individuals. These numbers render the work the more important only because of the numbers. Each year efforts are being made to extend the field of this useful work more than in the past. It must result in an improved sanitary condition wherever such requirements as those of our Board of Health are enforced.

This improved condition will do much to reduce the amount of the ordinary preventable diseases, and the knowledge gained by this effort will be far-reaching in its effect by drawing attention to the importance of removing disease-breeding nuisances that have long been tolerated, in proximity to dwellings and work-shops, from ignorance of their deleterious effects, and also from the indifference which comes from being "seen too oft," and with the same evil results that is said to attend increasing familiarity with vice.

Irrespective of any outbreak of cholera or other epidemic disease, this inspection must prove a gain, but should cholera

appear in this country during this year, which its past history renders probable, we shall have the responsibility resting upon ourselves if we fail to do our utmost to provide against it, after the warning we have had during the last year. In such an event, this house-to-house inspection, with its probable result of cleansing, will be of incalculable advantage in diminishing the evil results of such a visitation. Since the past history of cholera has shown that it is accustomed to follow the lines of human travel and traffic, thorough disinfection along the lines of travel, as far as this is practicable, has been urged. This is both wise and timely, and commends itself to the thoughtful and provident.

Our State Board of Health should receive the active support both of the medical profession and of the public in the laudable effort it is making to improve the sanitary condition of our people and of the State, and thus, by preventive measures, to prolong life and secure health, happiness and prosperity, if we should escape the threatened visitation, and, in case of its occurrence, to be as well prepared as possible to battle with it, and to reduce its evil results to the smallest practicable proportions.

SUICIDE.

The last necrological report of the Illinois State Board of Health, gives the reported cause of death of 202 physicians. Six deaths, about three per cent. of the entire number, have been attributed to suicide. A very large percentage as compared with other occupations. Again, we have five deaths in which the reported cause of death is an "overdose of morphia," and in two others an "overdose of chloral." It does not seem probable that these "overdoses" were all accidental. If we did so regard them, we must admit that a large number of deaths are caused

by the careless use of two powerful sedatives, for it is not supposable that physicians will only make mistakes when prescribing for themselves. Again, it would be very singular to have the mistakes confined strictly to the sedative poisons, to the entire neglect of those acids and powerful substances which cause a more or less painful death. The law of chance is not so beneficent in its operations. We cannot but class many of these cases among the suicides, and regard the "overdose" statement as a delicate shield placed there more for the comfort of relatives than out of strict regard for the truth.

FOREIGN CORRESPONDENCE.

To the Editors of the CHICAGO MEDICAL JOURNAL AND EXAMINER—*Gentlemen:* In some of my correspondence, which you have been so kind as to publish, I have alluded to several new remedies now in vogue in many European hospitals, and which I thought might be of some interest and value to your readers. Having myself paid considerable attention to the subject of therapeutics, I always hail with joy the appearance of new acquisitions to our armamentarium. Kairine and antipyrine are already well known as our latest valuable antipyretics, but a third one has just come forward, and is called *Talline.* This new alkaloid is a base of chinoline, which Kraup has recently prepared by synthesis. The name of talline is given, because when treated with perchloride of iron or any other oxidizing powder, it forms green crystals. Talline, when treated with tartaric, sulphuric and hydrochloric acid, forms salts very soluble in water, possessing strong antifermentative properties, but especially antipyretic, which action has been recently studied by Jacksch, of Vienna, (*Gaz. Med de Paris*). He ascribes to it a very potent febrifuge action. When given near a paroxysm of intermittent fever, talline prevents the development of the febrile stage, as it also abbreviates its duration if given during it. But it will not act as a cure, the paroxysm will return, so that quinine is needed and must be given to complete the cure. Talline will produce rapid lowerings of temperature when given in the course of pneu-

monia, of acute articular rheumatism, of erysipelas, of puerperal fever, and of tuberculosis. After the administration of ¼, ½ or ¾ of a gram the febrile temperature is lowered many degrees in four or five hours, and will not return to the primitive degree for some time. It has no effect as a medicament on the disease. The remedy is eliminated by the kidneys without causing any albuminuria nor glycosuria. The urine acquires a brownish tint, which changes into green when the liquid is examined by transparency. The following advantages have been ascribed to talline over antipyrine: There is less sweating during the stage of defervescence, the rigors are less frequent when the temperature is rising; the vomiting, cyanosis, collapse are always absent. It possesses a not disagreeable bitter-aromatic taste.

Another new preparation is *Ozoneine*, which Inimus has presented to the Biological Society of Paris. It is a liquid, and is prepared by Bech, a pharmacist of Paris. Ozoneine is a condensation of ozone, or a solution of it in water. Very highly disinfectant properties are attributed to it. Ozone was largely experimented with by Brand, with success, in the wards of choleraics and variolous patients at Toulon, and its efficacy was proven by Guiol, Long, Peyrremond and Rey-Escudier. Long and Guiol asserted that the significant immunity observed on those attending the cholera patients must be attributed to the ozonized air supplied continuously in the wards. (*Riv. Clin. e Terap.*) Ozonized water was used long ago by Lender in inflammations, in gangrene, glaucoma, neuralgia, diabetes and in all infective diseases, especially in diphtheria, for its local action in destroying the pseudo-membranes, which action sometimes occurs very rapidly. To disinfect wards of hospitals with ozone, there is a powder prepared by Krebs, Kroll & Co., of Berlin, composed of peroxide of manganese, permanganate

of potassium and oxalic acid. Two tablepoonsful of this powder with two tablespoonsful of water are sufficient to generate enough ozone to disinfect a hall for two hours. No metals must be left exposed.

Cocaine is still the leading topic of discussion in all medical circles. Since writing my last letter, many new observations have been presented. Innumerable are the indications for its use. But I will not usurp any more space in your journal to present to you all the reports, especially those of Mazza, Grasulli, Rosmini, Ielenk, DeMagri, etc., etc., in the diseases of the eye, and of Loughi, Desarenes and others, in diseases of the ear, for they all agree in pronouncing it a valuable remedy. By some opthalmologists it is used as a substitute for atropine. So far nothing else has been written about it except in praise.

Cremation is gradually progressing and becoming familiar throughout Italy. Education and persuasion are the only ways by which this reform must enter the minds and the hearts of the people. For this reason the progress it has made may seem slow, but it is not prudent to use violence in the control of the sentiments and prejudices to impose a funereal usage which is destined in time to become universal. One of the greatest obstacles to cremation was the deficiency of suitable furnaces which could rapidly, and with little expense, cremate the dead. But to-day the problem is solved, for it has been clearly demonstrated, that with the modern furnaces, cremation can be adopted as one of the greatest sanitary reforms. Italy has been the inaugurator of this method of disposing of the dead, and so far she has maintained her primacy over all nations in this field. The city of Milan has two cremation furnaces, one of Goviano and the other of Venini; Lodi, Rome, Cremona, Varese have adopted the Govini's furnace; Padua, Udine, Brescia, Novara have Venini's furnace, recently modi-

fied and which work to perfection. Florence, Pisa and Como, have also the Venini furnace. Leghorn has adopted Spasciani system. At Messina, and in the Variguano Lazaretto, near Spezzia, engineer Guzzi, by order of the Government, has built a furnace which combines the value of the Govini system and of the Venini process. During last year there have been 113 cremations, 82 males, 31 females. Two bodies were brought from France. In three an autopsy was previously made. Eight were exhumed. One was a priest. Four were the bodies of choleraics (at Cremona).

On the 15th of January, Dr. Lewis Nincini performed Porro's operation (utero-ovarian amputation) on a woman forty years old, primipara, at full term and twelve hours in labour. She had a narrow pelvis, caused by rickets. The operation lasted fifty-five minutes, and was finished without the least inconvenience. There was no spray, but the most rigorous antiseptic dressing was used. The skillful and valiant surgeon in this difficult operation was equal to his reputation, having operated with that security and ability for which he is noted. The patient soon rallied from the effects of chloroform and the shock of the operation, and is doing well. The new-born, a female, is alive and well.

The Secretary of State, Signor Mancini, has proposed to the foreign powers an International Sanitary Congress to convene in Rome for discussing and adjusting international sanitary measures against cholera. Premier Depretis will present to the Parliament a bill regarding the measures to be taken in case of epidemic diseases, and determining the duties of governors, sanitary councils and mayors.

With a philanthropic intent to better the conditions of the farming classes, especially in those provinces where pellagra is constantly present, the Minister of Agriculture, Industry and

Commerce has offered eight gold medals with 500 francs each, and eight silver medals with 300 francs each, to the promotors, founders and exercisers of economical ovens for the use of the rural population; or of any other institution indicated to better the condition of farmers; also eight gold and silver medals for the best colonical houses. The applications for the concours must be presented not later than the 31st of July, 1885. It is indeed time that something be done to eradicate this horrible disease, which annually takes away hundreds of human beings. What the poor classes want is: less taxes and better food. The government is throwing away millions of dollars in African expeditions and colonial acquisitions, while the money is most needed at home to relieve the pauperism so prevalent in the pellagra districts.

Money and provisions are the *antiseptics* of pauperism and famine, which are the only and true *bacilli* of pellagra.

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SOCIETY PROCEEDINGS.

TRANSACTIONS OF THE CHICAGO MEDICAL SOCIETY.

Regular Meeting, Jan. 19th, 1885.—DR. E. J. Doering, President, *pro tem.;* Dr. Liston H. Montgomery, Secretary.

The Bacillus of Syphilis, and the Treatment of the Disease with Tannate of Mercury.—In microscopical sections from two syphilitic chancres and a syphiloma, Lustgarten had found bacilli which were perfectly characterized by their color reaction, their form, and their relative position. They were represented as little rods, straight or somewhat curved, slightly larger than the bacilli of tuberculosis, but of the same general appearance. They were found single or in small groups, inclosed in somewhat distended lymphoid cells, and, with powerful illumination, showed spots like those that Koch regarded as spores in the tubercle bacilli. Their staining properties made it possible to distinguish them from all other pathogenetic organisms, and the fact of their being always inclosed in cells would prevent their being confounded with putrefaction formations, etc. As the author alluded to had cultivated this bacillus, and as his results had been confirmed by Koch, it would seem that the evidence was sufficient.

In regard to the treatment of the disease with the tannate of mercury, the first trials had been made by Kaposi, nearly a year ago, and the results had been so remarkable, and the advantages so great, that the drug was now freely used in Germany. It was a tannate of the protoxide, was without odor or taste, and

was soluble only when decomposed. It contained about fifty per cent. of metallic mercury. Hydrochloric acid made no sensible impression on it; it was easily dissolved in nitric acid; very dilute alkalies, such as solutions of ammonia, caustic potash, or an alkaline carbonate, reduced it to a sort of magma, composed of very small particles of metallic mercury. Its rapid absorption into the system was proved by an abundant mercurial precipitate found in the urine shortly after it was administered. It was given in nearly all forms of syphilis—recent as well as inveterate eruptions and gummy deposits. Dr. Zeisler had himself seen the patients, whose cases had been reported in one of the Vienna journals, and could testify to the results. Six of the cases were primary eruptions, three were gummata, two showed small papules and large pustules, and one was a case of relapsing secondary syphilis. A rapid diminution of the lesions would be observed in the course of a week or two, and in three or four weeks they would have entirely disappeared.

The author then alluded to a case that he had under treatment lately, that of a man who had contracted a chancre last June, at which time he received treatment by another physician. In six weeks the roseola appeared, together with various other manifestations. A number of remedies were used internally, and external treatment was employed, until September 14th, when the patient first consulted him. At that time there was a widely diffused maculo-papular syphilide. As it was impossible to obtain any of the tannate of mercury then, mercurial frictions were used until September 19th, but from this latter date until October 5th, the patient took four grains and a half of the tannate daily. The eruption had then entirely disappeared, and only a few spots of pigmentation could be seen; there was no sign of salivation. The use of the drug was con-

tinued until the 1st of November, and the patient was then discharged cured.

The remedy was usually given in doses of about a grain and a half, with four or five grains of sugar, three times a day, an hour after meals. When thus given, it was rare for it to produce any sign of salivation. The alkaline carbonates, and considerable quantities of mineral waters containing such salts, should be avoided by patients, who were taking the remedy, for they decomposed it; and iodide of potassium should not be given at the same time, as the production of a large amount of iodide of mercury would be the result. The writer had never seen any disagreeable symptoms of mercurial poisoning produced while the drug was being used, nor any irritation of the bowels, even when its use was continued for weeks in such large doses as six grains daily, and he had seen about twenty cases so treated. If the bowels became loose, one sixth of a grain of opium could be added to each dose. While this new remedy might not produce a revolution in the treatment of syphilis, it deserved to be classed among the best that had come into use.

Dr. G. C. Paoli asked with regard to the use of the drug in the tertiiary form, where the bones were involved, and stated that its employment had been suggested as early as six years ago in some of the foreign journals. The main remedies that he relied upon were iodoform for chancres, and afterward fumigations and the use of the red iodide of mercury in small doses, and he had yet to see his first case of salivation from that treatment, which he could not say of the green iodide. He sometimes found it necessary to use a little opium or hyoscyamus, to prevent irritation of the bowels. The tannate might have astringent properties, and, if it had, it might be very good for children. Where the bones were affected, he thought iodide of potassium, in doses of fifteen, twenty, or thirty

grains, was unequalled as a remedy, but the disease was one in which we could not say that any remedy was the best, for there were special idiosyncrasies in some cases. Regarding the micro-organisms of syphilis, Dr. Saunders had discovered them ten years ago, but he had been ridiculed for his ideas, and had desisted from further investigations in htat direction.

Dr. Robert Randolph had seen pathological specimens from syphilitic persons. He prepared slides, purporting to contain bacilli, at least three years ago, but it had then been concluded that there was nothing in the supposed discovery.

Dr. Zeisler thought that Dr. Paoli must be mistaken about the alleged discovery of syphilitic bacilli ten years ago, for certainly nothing was known about coloring or cultivating bacilli until within the past few years.

A New Method of Counting a Rapid Pulse was the title of a short paper by Dr. A. E. Hoadley. The method consisted simply in counting every alternate pulsation and multiplying the number by two. On the first trial one would probably fail to make an accurate count, but with a little practice the knack was soon acquired, and the acquisition might be hastened by practicing on the tick of a watch.

Obstruction of the Ileum by Peritoneal Adhesions; Death.—Dr. Hoadley also reported the following case:

A man, thirty years old, apparently in good health, was attacked very suddenly, in the night, March 14th, with severe pain in the abdomen, opposite the umbilicus. It continued for five or six hours, from the effect of remedies, as was supposed. After a few hours it returned and again subsided. With some variation in the frequency and severity of the paroxysms, it continued up to the time of his death, four weeks from the time of the seizure. Soon after the onset he began to suffer with vomiting of a very distressing nature, but in time this

became more passive, although it continued from day to day to the last. At times he vomited simply what he had swallowed, but at other times, and especially during the first two weeks, the vomiting was stercoraceous. For three weeks the temperature did not exceed 100° F., and most of the time it was about normal, while the pulse ranged between 75 and 85, but gradually grew weaker, and during the last few days was very rapid and scarcely perceptible at the wrist. There was no tympanites, and but very little tenderness. Much of the time the abdomen was quite flat and had a doughy feel, but during the paroxysms it became as hard as a contracting uterus during labor, although there was no muscular rigidity or increase of tenderness. During the intervals gentle kneading would reproduce the tense condition without producing pain. This state of things was most marked during the last week of the illness, at which time the patient was much exhausted, with his voice husky, his skin of a leaden color, and presenting a general pinched and emaciated appearance. The pains had then lost their severity, a sense of suffocation with general numbness being produced instead—as he described it, it felt as if his stomach was being crowded up under his ribs. Throughout the case, except on one day, there was no voluntary passage from the bowels, although before the attack they had been soluble and very regular. With the aid of injections and laxatives, a few small, elongated lumps of fæcal matter, never exceeding three-eighths of an inch in diameter, were passed every day or two. At the end of the third week, however, there was a slight diarrhœa for one day only. Throughout his entire sickness, even in the absence of pain, he was restless and weary, and never slept more than an hour at a time.

Treatment was of little avail. Opium and chloroform were the principal remedies used; they retarded the vomiting

and pain, but controlled neither. Many other remedies were tried, and the case was treated from every possible standpoint, except that of surgical interference; there seemed to be no time when an operation was admissible. Rectal alimentation appeared to give good results. Dr. J. D. Skeer and Dr. C. W. Earle were called in consultation, and confirmed the writer's early diagnosis of mechanical obstruction of the small intestine, probably at the ileo-cæcal junction. The patient died on the twenty-eighth day. The autopsy revealed many peritoneal adhesions and bands of long standing, which were very firm, binding the ileum down into the pelvic cavity. One of them was firmly attached to the anterior abdominal wall, midway between the umbilicus and the middle of Poupart's ligament on the right side. At its attachment it was about one-fourth of an inch thick and three-fourths of an inch wide. It then spread downward to the left side of the pelvic cavity, where it was firmly adherent, from the brim far down upon the inner wall, becoming fasciculated and embracing the folds of the ileum between the fasciculi, furnishing a band that held the larger mass of the small intestine in the pelvis. On dividing these bands and removing the intestines, they were found everywhere bound together by adhesions; but there was not the slightest evidence of recent inflammation of the peritonæum, although the intestine itself was inflamed and very much softened for a distance of about four feet, extending to within twelve or fourteen inches of the ileo-cæcal junction. There was no evidence of previous disease of the intestine.

Eight years before the patient had been treated by the writer for typhoid fever, which ran a moderately severe course, and ended in recovery. A most interesting point about the case, as it now appeared, was the fact that at times he had a moderate peritonitis, which in all probability had given rise to the adhesions.

Dr. A. Leigh would like to know how the tense condition of the abdomen took place without muscular contraction.

Dr. F. Carey asked if there were any adhesions below the ileo-cæcal valve.

Dr. Hoadley replied that the valve was normal. So, too, was the caliber of the whole length of the colon; the small size of the passages was in part due to the pelvis being full of intestine, so that the fæces were molded, as it were. Regarding the tense condition, there was a spasmodic contraction of the bowels, which was uninfluenced by the will.

At the regular meeting of this Society, held on the evening of February 2, 1885, Dr. Boerne Bettman read a paper entitled "*Peroxide of Hydrogen in Aural and Ophthalmic Practice.*" The essayist remarked that the antiseptic measures introduced by Lister had been applied in aural therapeutics, and marked an era of rational medication in otology. Carbolic acid, although highly satisfactory as a cleansing agent, could not be applied as a germicide, a 5 per cent. solution not being tolerated by the sensitive mucous membrane. The boracic acid treatment of Bezold, therefore, immediately found many advocates; it has well sustained the severe tests to which it has been subjected. Happy results have also been achieved with bichloride of mercury and iodoform. A remedy equally efficient, and very useful in cases where the others have failed, is the peroxide of hydrogen, discovered by Thenard in 1818, and introduced into medical literature by Dr. B. W. Richardson, of London, in 1855. It soon fell into disuse, to be entirely forgotten, but it has lately been reclaimed by the unceasing labors of Dr. Coffin, several Parisian surgeons, and by Dr. W. A. Harlan, of this city. It has been principally employed by

dentists in the treatment of alveolar abscesses. But few allusions have been made to it in ophthalmic and aural literature. The usual method of preparing pure peroxide of hydrogen, is by decomposing peroxide of barium with hydrochloric acid. It is a highly prized antiseptic. In a pure state it is a colorless, syrupy liquid, of a slightly bitter taste, and possesses a faint odor of chlorine. Its specific gravity is 1.455. It is a highly unstable compound, decomposing rapidly when exposed to air, and liberating its oxygen. It owes its value as a therapeutic agent to this property. M. Miguel, of the Observatoire de Montsouris, in his comparative table, presenting the relative value of the various antiseptics, places peroxide of hydrogen at the head. The writer then related his observations, made with the microscope, of the action of dioxide of hydrogen upon pus. The pus corpuscles and bacteria are put into lively motion, when a drop of peroxide is allowed to flow under the covering glass. Small gas bubbles, the liberated nascent oxygen, are now evolved. The pus corpuscles gradually lose their spherical shape, shrink, assuming a crescentic form, and are heaped together, a mass of detritus. The bacilli are affected in a similar manner. In a few seconds they are transformed into a dead mass, intermixed with the decomposed pus corpuscles, and surrounded by seething bubbles of gas. The therapeutical action of peroxide of hydrogen has been explained as follows: when it comes in contact with pus, the extra O it contains is liberated so rapidly that the hydrogen and sulphur of the tissues immediately combine, resulting in H_2SO_4 in small quantity, sufficient to glaze the pus-producing area, thus affording an opportunity for the exuding protoplasmic material to organize into new tissue. The remaining unsatisfied atoms of O quickly distend the pus-sac and force out the contents. He had used the remedy in

more than thirty cases of otitis media purulenta, and employs a preparation sold by chemists containing 12 volumes of the gas, as follows: the parts are thoroughly cleansed with warm water, and then dried with absorbent cotton, after which 8 to 12 drops of the remedy are instilled into the ear. Contact with pus and diseased tissues sets free the oxygen visible as bubbles, which, united with the expelled pus, forms a seething, frothy mass. Patients rarely complain of pain. After cleansing the parts, the mucous membrane is seen to have assumed a milky white appearance. The liberated gas enters the most hidden recesses of the middle ear, forcibly dislodging the decomposing material, and destroying bacteria embedded in the tissue meshes. If the perforation is small, the remedy can be injected directly into the middle ear. It had also been successfully employed in the treatment of dacrocystitis, and in one case of chronic trachoma which had run its course, but where there still remained a mucous discharge. Several (5) cases of dacrocystitis yielded only to the peroxide of hydrogen, after having been subjected to the routine medication with astringents, carbolic acid, introduction of Bowman's probe, and gelatine bougies.

In the discussion, Dr. R. Tilley stated that he had seen the peroxide of hydrogen solution used in Paris by Palse as a spray in ovariotomy, and also by Landolt in dacrocystitis, but he saw no manifest advantage from its use that should entitle it to a position of preference over certain well-known and well-tried remedies, among which he mentioned permanganate of potassium solution. In observations with the preparation, it was of considerable importance to adhere to the tendency of the most careful workers of the day, and ascertain to just what factor of the peroxide solution the alleged virtue was attributable. It is a fact that the peroxide of hydrogen solution is rendered more

permanent by virtue of an acid; and the acid used is sometimes hydrochloric, and sometimes sulphuric acid is used, the former being more generally selected at the present time. The quantity of acid used is very small; but small as it is, it may have considerable influence. It should always be ascertained by the person using it which of the acids is used to facilitate the solution of the peroxide, as minute quantities of sulphuric acid may have very deleterious effects in certain cases. The best test for the presence of the peroxide in solution is a crystal or two of permanganate of potassium.

Dr. W. W. Allport stated that he had used this remedy in alveolor abscesses and pulpless teeth. On filling a cavity of a tooth with the solution, effervescence occurs and assists the cleansing of the cavity.

Dr. J. S. Marshall has treated burrowing abscesses when, for obvious reasons, he did not wish to make an external opening. By injecting a solution freely into such a cavity, the relief was much more rapid and satisfactory than with other agents he had used.

Dr. G. Newkirk has used it in cases which were not blind abscesses, and obtained satisfaction. He found it difficult to obtain the substance reliable, and to keep it good.

Dr. Bettman concurred with the last speaker that it does not keep well, and that it is of importance to obtain a reliable article. He felt sure that its effect on pus was due to the liberation of oxygen when it comes in contact with pus and its associated products.

Missed Abortion was the title of the next paper, by Dr. P. O'Connell, in which he related a case, notes of which cover a period of two years. The patient was twenty-six years old, and had one child, two years old. Three months after her last confinement the catamenia appeared. This function continued

to come on regularly for several months, when it ceased. In addition, the other usual symptoms of pregnancy were present. Three months from the commencement of pregnancy the patient fell, striking rather heavily on her hands and knees. A slight sanguineous vaginal discharge, lasting a few hours, followed the fall. After this the abdomen, which had been enlarging, slowly diminished to its normal state, and her health slowly but steadily deteriorated. She had almost constant aching, with occasionally a severe pain, and a sensation of the limb "going to sleep" was felt in the left lower extremity. She could not lie on the left side.

Careful palpation of the hypogastrium gave no evidence of uterine enlargment. The left vaginal region was tender on deep pressure. On vaginal examination, the finger met the uterus fully one inch lower than normal, with the os and cervical canal so patent as readily to admit the index finger. The anterior segment of the cervix was thickened. Upon bimanual examination, the uterus was found to be somewhat enlarged, but not sensitive.

The sound penetrated to a depth of 2½ inches, and to the left. There was no hyperæsthesia of the vagina, although its mucous membrane was congested. The cervix was also congested and bled freely and readily. Ergot and strychnia were prescribed, and soon after the first dose was taken uterine contractions set in, resulting in the expulsion of the mass, which was greatly decomposed and abominably ill-smelling. It had doubtless lain in utero for three months. Upon closely questioning the patient, she said that during August, which was extremely hot part of the time, she frequently felt so cold at night as to require heavy bed coverings to keep warm. That she had frequent chills, and once had what would seem a rigor. These symptoms, with itching, an erratic rash on the

skin of the lower abdomen and back, together with malaise and slowly increasing debility, clearly pointed to the absorption of septic matter from the cavity of the uterus. The pain in the left lower extremity was due to the dead weight of the uterus on the branches of sacral plexus of nerves. The specimen was then exhibited, which presented a mummified appearance and consisted of the placenta and two fœti.

Muriate of Apomorphia in Chronic Bronchial Asthma, with a report of two cases, is the subject of a paper read by Dr. G. W. Webster.

CASE 1. Mr. G——, English, 34 years of age, married, carpenter, has suffered from bronchial asthma for more than one year. He has been a resident of the United States about two years and three months. During the past summer, especially at night, he suffered greatly from this difficulty. When first called to attend him, in December last, he was suffering from asthma and severe attacks of spasmodic coughing spells, and he had been for some days confined to his bed. Gave him remedies to overcome the difficulty, which did not in some respects afford him the least relief.

Apomorphia per os in gr. 1-20 every three hours, was given him. And the following morning the patient stated that he passed a comfortable night. The remedy was then increased to 1-10th gr. ter die, and the second night he slept well and rested comfortably from this time on whilst taking the drug. It was then discontinued; but the attacks recurred, however, with much less severity. The remedy was again renewed and with entire relief. It was then given him for two weeks, during which time he was up and about and able to follow his trade.

It is now four weeks since he ceased taking the drug and there has been no return of the disease.

CASE 2. Mr. B——, aged 58, laborer, has had chronic bronchitis with asthma every winter for twenty years. When called to see him in January, found him suffering greatly from dyspnœa; rales were present over the entire chest, and his face and hands were cyanosed, and he was gasping for breath. Gave apomorphia in 1-20 gr. doses every three hours, and the subsequent day he was considerably relieved and could breathe freely. The remedy was continued a few days longer with continued relief to the patient, since which the writer had not seen him.

D. C. T. Fenn referred to a mismanaged case of "*frost-bite*," and alluded to the ill usage of two of our most efficacious remedies, viz., ice and heat, by their being wrongly employed.

The society then adjourned.

Meeting of February 16, 1885.—The President, Dr. D. A. K. Steele, in the chair.

Malignant Disease of the Thyroid Gland.—Dr. C. E. Webster reported the case of a woman, sixty years old, whose general health was quite good, but who first noticed an enlargement of her neck about a year before she first consulted him. It began in one lobe of the thyroid, and extended rapidly to the adjacent glands and tissues of the neck. When she was first seen, swallowing was difficult and her voice was husky, although her breathing was not impeded. The thyroid gland, the larynx, the trachea, and the neighboring cervical glands formed an irregular doughy mass. The diagnosis lay between tertiary syphilis and cancer of the thyroid, but it was made easy by the history of the progress of the growth from an enlargement of the thyroid, and by the fact that such growths after middle life were almost invariably malignant. The

steady progress of the disease under a short course of anti-syphilitic treatment confirmed the diagnosis, and the patient had recently died of exhaustion. The microscopical appearances of such growths were sometimes peculiar, hardly differing from those of benign tumors of the same organ, so that it was often difficult to decide upon the nature of the neoplasm from those appearances alone. A case in point was cited from the service of the Massachusetts General Hospital, in which the alveoli were lined with cuboid cells and filled with a homogeneous substance.

Dr. F. Cary asked where the cells were in the latter case, if the alveoli were filled with a homogeneous substance.

Dr. L. H. Montgomery asked about the dimensions of the tumor, whether it extended uniformly in all directions, and if the speaker had any theory as to the functions of the thyroid. Might not the organ be situated over the trachea for purposes of protection, or did it act as a sort of reservoir, like the spleen?

Dr. E. J. Doering asked if removal of the mass would have been justifiable.

Dr. Webster stated that, in the hospital case referred to, the lumen of each alveolus was filled with a homogeneous substance, and the cells were arranged peripherally. When he first saw his own patient the disease had progressed to such a stage that, had an operation been undertaken, it would have been impossible to complete it, as the deep tissues of the neck, including the œsophagus, were involved in the growth. The tumor of the thyroid was as large as half a hen's egg, and a doughy mass extended in all directions. He had no theory to offer as to the function of the thyroid gland.

Tape-Worm in a Child.—Dr. C. G. Davis read a report of a case of *Tænia solium* in a child two years old, and showed

about four inches of the worm, including the head. On the 10th of December, when he first saw the child, it had not quite recovered from an attack of entero-colitis that had lasted through the summer and autumn; it still occasionally had the usual symptoms of "summer complaint." A number of simple remedies were given, together with raw beef, and this treatment seemed to be effectual, but portions of tænia soon began to appear in the discharges, and half a teaspoonful of a French preparation of pelletierine was given, followed in an hour by twenty drops of tincture of jalap and a teaspoonful of castor-oil. This was followed by the expulsion of three or four yards of the worm, but the head was missing. The child was then carefully nursed, and its general health looked after, when segments of the worm again appeared in the evacuations. A double dose of the pelletierine, jalap and castor-oil was then given, and several feet more of the worm were discharged, including the head, which was now exhibited.

Dr. Doering alluded to three cases of tænia that he had treated in children, the youngest of whom was only six months old and had been fed on raw beef while sick with entero-colitis. He was surprised at the results that had followed the treatment in Dr. Davis's case, for he himself had used much larger doses of pelletierine, with only partial success.

Hygroma of the Tongue.—Dr. Josef Zeisler related the case of a girl, nine years old, the right side of whose face was much more developed in its osseous and muscular formation than the left side. The surface of the tongue was covered with cysts, varying in size from that of a pin-head to that of a pea, and there was a collection of like vesicles on the mucous membrane of the right cheek, near the angle of the mouth. There was also a crested formation running along the middle line of the dorsum of the tongue, of a caruncular appearance. The

movements of the tongue and the faculty of speech were not impaired. The speaker regarded the case as one of colloid degeneration of the mucous membrane, but he could not classify it precisely, having never seen another like it. The only treatment suggested was galvano-puncture of the cysts. A microscopical examination was not allowed. Dr. E. Andrews, Dr. C. T. Parkes, Dr. J. N. Hyde, and several other well-known physicians had seen the patient, but none of them had seen a case of the sort, and they could make no further suggestion in regard to treatment. Two like cases were to be found in the literature of the subject.

The Comma Bacillus.—Dr. L. L. McArthur showed specimens of Koch's cholera bacillus. He considered that, thus far, Koch had successfully met all opposition to his theory of the causal relation of the bacillus to Asiatic cholera. The specimens shown were from Koch's laboratory, having been sent by Dr. Betz, of Tübingen, to Dr. Doering.

Meeting of March 2, 1885.—The President, Dr. D. A. K. Steele, in the chair.

Mollities Ossium.—Dr. W. J. Webb read a paper on this disease, embodying an elaborate account of the case of a man, a native of Pennsylvania, some of whose brothers and sisters had had symptoms more or less like his own, so that an hereditary element might have entered into the causation of the disease. He had led a life of vicissitudes, having been at different times a wood-chopper and a miner; had been a masturbator from the age of eight years; had at times been a hard drinker; was supposed to have had syphilis; and perhaps had been poisoned by drinking arsenical water while engaged in mining. He had also suffered from tape-worm. Toward the close of his life

his body became very much distorted; he was at one time unable to move any part of his person except his right hand, he was cyanosed, and on several occasions his temperature was subnormal.

At the post-mortem examination, the body was found so shortened and flattened as to resemble that of a frog; yet it was six or seven inches longer than it had been before death. It was excessively emaciated, and the skeleton was distorted in various ways. After being subjected to a stretching process, the entire length of the cadaver was fifty-five inches. The left femur measured eleven inches, the right one eleven and three quarters; the left tibia fourteen inches, and the right one thirteen and a quarter; the sternum six and a half; each humerus eleven; and the left ulna nine, and the right one ten. The heart was situated in the median line, and the pericardium extended up to the second rib. The head was at least an inch and a quarter smaller in circumference than it had formerly been. The vault of the cranium was nearly as flexible as a moderately distended foot-ball. The bones of the face had suffered least of all, but they had been tender to the touch before death, and some of the teeth had become loose. The clavicles were enlarged, elongated, and curved decidedly downward. The sternum was but little affected; the manubrium, together with the sternal ends of the clavicles, extended upward and forward, while the gladiolus pointed upward and slightly backward, which made a decided curve posteriorly. In the latter third of the shafts of the ribs nearly or quite all the proper bone substance was wanting, and the periosteum was folded upon itself. Altogether, the condition of the chest-wall was such as to have caused great compression of the organs within, and for at least six months before the man's death his breathing had been largely diaphragmatic.

The vertebral column was enlarged, and, while its natural curves were increased, there was also a decidedly sharp lateral curvature to the right in the dorsal portion, together with a slight curve to the left in the lumbar portion. The innominate bones were nearly at right angles with the horizontal plane of the pelvis. The ilia were crowded inward, while the ischia were directed outward and the sacrum was turned forward, and the pubes slightly backward and downward. This position of the pelvis, together with the eversion and outward curvature of the femora, was suggestive of the ancient lyre. The upper limbs presented nothing of special importance, except that they were small and so soft and flexible that they might easily have been tied in a knot. On section of the femur, only a trace of bone substance was seen adhering to the inner surface of the periosteum; as the head of the bone was approached, the cancellated structure was more characteristic, but even here it could easily be cut with an ordinary scalpel. When the periosteum was cut into, a considerable quantity of sero-sanguineous fluid escaped that completely enveloped and seemed to permeate the liver-like substance which had taken the place of the medullary canal and the greater part of the shaft of the bone. In the trochanters there was an augmentation of soft cancellated substance containing a large deposit of fat. The neck of the bone was shortened, and the great trochanter extended above the articulation with the acetabulum.

The reader then gave a summary of the treatment to which the man had been subjected, and suggested that, when practicable, a water-bed should be used for such patients, while something might perhaps be done with an apparatus for making extension and preserving the proper shape of the thorax—possibly with plaster of paris. According to an old author (who was quoted at length), cases of osteomalacia might be divided

into three classes: 1. Those due to carcinomatous or sarcomatous disease of the medulla. 2. Those due to an affection of the medulla, allied to lymphoma. 3. Those due to some peculiar condition of the medulla, or perhaps of the blood, dependent on the pregnant state. The reader thought that hereafter the nervous system would receive more attention than it had received hitherto in connection with this disease.

Dr. C. E. Webster asked if the reader, in his study of the disease, had been able to distinguish it sharply from fragilitas ossium. It seemed to him that the two were often confounded. He doubted if any form of support could have been devised that would prevent the deformity of the thorax.

Typhoid Fever and its Hygienic and Specific Treatment was the subject of a paper by Dr. David O'Shea, which was illustrated by the histories of a number of cases. Foul air and contaminated drinking-water were not always the cause of the disease, but he believed that there was a specific enteric bacillus yet to be discovered. Klebs had already professed to have identified the bacillus, and to have found it in the blood, in the lymphatics, and in the tissues, but this needed confirmation. It was very rare for the disease to occur in a person far advanced in years, but the individuals of certain families were prone to suffer from it in a severe form, so that there was reason to apprehend a formidable attack when a parent had died of it. When we were called to a suspected case, therefore, we should first consider the patient's family history, then his personal history, and finally his actual condition, with regard to their bearing on the prognosis.

The principles of treatment were generally accepted and well understood, and success would depend greatly on their intelligent application to individual cases and on careful attention to details in every stage of the disease. Whenever it was possi-

ble, he had the patient's bed placed so that, occupying a large, airy room, with the doors or windows open more or less continuously, according to the state of the weather, it could be approached from either side. The bed should be firm and comfortable, and, if practicable, one should be occupied during the day and another at night. The covering should be light, but sufficient to protect the patient against changes of temperature. The body should be sponged night and morning with tepid alcohol and water, and during the height of the fever the face and hands should be sponged frequently during the day. If the temperature rose above 103° F. in the morning, and above 104° in the evening, the wet pack should be applied to the chest and an ice-bag to the head, and a mustard foot-bath three times in the twenty-four hours would prove very grateful and efficacious. The bed-pan should always contain about one-third its capacity of water with a teaspoonful of a twenty-five per-cent. solution of carbolic acid added to it, and this should be renewed every time the vessel was used. In summer the evacuations should be buried, but in winter they could be thrown into a water-closet. No one should occupy the same bed with the patient, nor, if it could be avoided, the same room, and only those who were advanced in years should act as nurses. In all the cases related, this hygienic treatment had been followed, together with the specific treatment laid down by Liebermeister, Traube, Wunderlich, and others, consisting in the administration of ten grains of calomel at a single dose the first day the fever was recognized, and eight grains a day for three or four days afterward, or according to the condition of the bowels. It was a fact that these large doses of calomel had an antipyretic effect in every case, and, with this remedy, the writer could bear testimony to the efficiency of the specific treatment in cutting the disease short and less-

ening its mortality. The longest duration of the disease in any of his cases was twenty-six days, and the shortest fifteen days. The complications were few and of short duration; only one of the patients became delirious, and in that case the disease had not been recognized until the beginning of the second week, so that several days had elapsed before any calomel was given. Whether or not this fact was the cause of the delirium, he would not undertake to say—he merely mentioned it. The same patient was sick the longest time, and had the most copious evacuations. The true value of this specific plan of treatment could not be arrived at from such a limited number of cases, but he could recommend its further trial.

Dr. G. C. Paoli thought we could rely on nature in light cases, and that such cases served to explain the temporary popularity of the various specific plans of treatment that had sprung up at one time and another and been abandoned. He had seen cases run their course in eight, nine, or ten days, and he had seen others continue for twenty, twenty-five, thirty, or forty days; again, he had seen the disease in a malignant form go on to a fatal termination speedily. He relied a good deal on nourishment and careful nursing. He thought there was danger in the plan of using two beds, as suggested by the author, for, when Peyer's glands were inflamed, or when their cicatrization was incomplete, moving the patient from one bed to another might lead to trouble. The diarrhœa of typhoid fever could not be stopped, but we could control it within certain limits. He did not believe that there was such a thing as a typhoid-fever bacillus, or that one would ever be discovered. He gave but little quinine in the disease, and had seen two patients die from the administration of forty grains of the drug during an attack.

Dr. C. G. Davis was glad to see prominence given to the

hygienic plan of treatment; formerly, under the notion of scourging the disease out of the system, too much medicine had doubtless been given. His observation had been that the mortality varied in different years and in different localities; he had seen it as high as twenty per cent. and as low as four per cent. A favorite piece of medication with him was to give a twenty-fourth of a drop of tincture of nux vomica and a sixth of a drop of tincture of aconite-root every four hours; this lessened the tendency to irritation of the gastro-intestinal mucous membrane, and he did not regard it as homœopathic.

Dr. C E. Webster usually followed the expectant plan. He sometimes ordered brandy in teaspoonful doses, as occasion required.

Dr. R. Randolph gave a minute description of his method of applying cold water. An oil-cloth was placed under the patient, after his night-shirt had been pulled up over his head, and then cool water was pressed out of a sponge over the surface of the body. The oil-cloth was easily removed when the process was over. He had never seen quinine reduce the temperature; on the contrary, he believed that it acted as a cardiac depressant.

Dr. G. W. Webster could speak of cold baths from personal experience, having had typhoid fever himself. The baths that he was subjected to produced very severe shock, so that, after having had two or three of them, he had refused to submit to any more. Moreover, they did not reduce his temperature more than a tenth of a degree. Sponging with tepid water, however, was such a pleasure that he looked forward to it eagerly. He was given large doses of quinine, which so weakened his heart that he did not recover from the effects for as much as a year. He had seen salicylate of bismuth used very successfully in a number of cases.

Dr. Randolph remarked that more attention was now given to the temperature than to the pulse, and that the observation of the pulse was getting to be one of the lost arts.

Dr. G. W. Webster called attention to the secondary dilating action of cold upon the superficial capillaries, and instanced the burning sensation felt in the hands soon after handling snow or ice.

Dr. Angear doubted if this observation would apply to the moderate cold that was used in the treatment of fevers.

Dr. G. Newkirk did not think it necessary to apply cold to reduce the temperature. The warm pack imparted a pleasant sensation of quiet and rest, and kept the skin active, which was an essential point in the treatment.

The paper was further discussed by Dr. R. E. Starkweather, the President, and Dr. O'Shea.

LISTON H. MONTGOMERY, M. D., *Secretary.*

FACTS SERVING TO PROVE THE CONTAGIOUSNESS OF TUBERCULOSIS; WITH RESULTS OF EXPERIMENTS WITH GERM TRAPS USED IN DETECTING TUBERCLE-BACILLI IN THE AIR OF PLACES OF PUBLIC RESORT, AND A DESCRIPTION OF THE APPARATUS. *By* W. H. WEBB, M. D.

[Read before the College of Physicians of Philadelphia, February 4th, 1885.]

It is in accord with the spirit of the age to attempt to get at the root of all things affecting the health of our race. The causes of tuberculosis and influences modifying the progress of the malady claims not only the active interest of those engaged in the field of scientific medical investigation, but the attention of every mind that fully appreciates the universal prevalence and immense mortality resulting from the scourge consumption. It may add somewhat to the interest, if not to

the elucidation, of this subject to trace the progress of thought springing from the observation of clinicians of all ages. By collecting the expressions of the *master-workmen* of different times, we will see that knowledge upon the subject has been steadily progressive, and that what now seem to be proven facts, have been preceded by flashes of truth in almost every epoch of medical history. The discovery of the tubercle-bacillus was not drawn from the inspiration of genius, but from the shaping of clinical facts gathered in the progress of our art, from the time of the Father of Medicine until the day that Koch discovered a peculiar microbe in tuberculous patients.

The word tubercle was used by Hippocrates,[1] but he applied it principally to designate small external tumors—phymatæ—as hordeolum, furunculus, sycosis, anthrax, wheals, etc. It is said that the word was used by Celsus, about A. D. 20, but no special meaning was attached to it by him.

Franciscus Delebœ Sylvius, who lived between 1614 and 1672, was not only a strong advocate of the doctrines of Hippocrates, but also did much to advance the knowledge of this disease. He was the first to use the word tubercle in designating the hard nodules found in the lungs of the phthisical. He was also the first to speak of the formation of cavities and destruction of the lung tissue by the softening and breaking down of these hard masses. He describes three kinds of consumption—one of the blood; one of the lungs, occasioned by bad nutrition; and one of degenerated glands. Through this latter proposition he may be regarded as the originator of the theory of a relationship between consumption and scrophulosis. "He believed that in the predisposed the disease my be excited by contagion."[2]

1 "The Genuine Works of Hippocrates." Published by the Sydenham Society. London, 1849.

2 Quoted in "A Practical and Historical Treatise of Consumptive Diseases." By Thos. Young, M. D. 1815. p. 178.

As a result of autopsies made by Willis, and also by Bonetus, about from 1640 to 1670, the subject of phthisis was very much advanced.

When Richard Morton's[1] celebrated work appeared, the opinions set forth therein were not only greatly in advance of those of his own time, but were destined to supplant all others, and to be accepted as correct for more than one hundred years after his death. He asserted that all consumption originated through tubercles, and that they gave rise to the dry cough. The idea entertained by Hippocrates, that consumption was due to inflammation and ulceration, he strongly opposed. He also declared that he believed the disease to be propagated by infection. "For," said he, "this distemper—as I have observed by frequent experience—like a contagious fever, does infect those that lie with the sick person with a certain taint." (p. 67.)

Desault[2] also insisted that tubercles were the essence of consumption, and that ulceration of the lungs and hæmoptysis were the result of the deposit. He believed in the contagiousness of the disease when ulceration had occurred. A statement, which at this day seems to have been almost prophetic, occurs in his writing upon Tuberculosis: "Worms," he declares, occasioned by the putrefying lungs, "propagate the disease and cause it to spread."

From the time of Morton to 1793, the subject of tuberculosis commanded the attention of some of the most distinguished men in medicine. (Sydenham F. Hoffman, Boerhaave, Van Swieten, Sauvages, Morgagni, Cullin, Hufeland, Portal, Stark, Ruysch, Stahl, Reid and Baumé.) At this time Baillie's

1 "Phthisiologia, or a Treatise of Consumption." 2d Ed. London, 1694.
2 Quoted by Thomas Young, M. D. Loc. cit.

great work appeared,[1] in which he demonstrated the existence of tubercles in other organs besides the lungs.

Bayle,[2] an independent worker as well as thinker, insisted most strenuously that phthisis is a general chronic disease, and owes its origin to a special principle—the tuberculous. He, too, denied most positively the teachings of Hippocrates, that consumption was due to inflammation and ulceration. To him is due the credit of discovering what is now known as miliary tuberculosis. "Out of nine hundred autopsies performed by him, he found 624 had tubercular phthisis, 185 the granular or miliary tubercle, 72 melanotic, 14 ulcerous, 4 the calculous, and 3 the cancerous." He says further: "This disease appears always to depend on a peculiarity of constitution. Hæmoptysis is a frequent symptom of consumption, and is sometimes mistaken for its cause; but it often happens that when hæmoptysis has been fatal, the lungs are found full of tubercles."

Laennec, who followed Bayle, declared that all consumptions, including scrophulosis, were nothing but the consequences of the tuberculous specific principle, which might be inherited or be acquired. In demonstrating his theory he made use of auscultation, which it is said he originated, in accurately determining the diseased condition of the lungs. Laennec's views in regard to the pathology of consumption, notwithstanding he had very strong opponents among his colleagues, were held for a long time. Schönlein, in the main, held with Laennec, but differed most positively with him in making a marked distinction between tuberculosis and scrophulosis. At this times scores of eminent investigators were busy with this sub-

1 "Morbid Anatomy." London, 1793.

2 "Recherches sur la Phthisis." Paris, 1810, p. 66. Quoted by Dr. Young. Loc. cit., p. 452.

ject, and the confusion of ideas that then existed occasioned the promulgation of many widely divergent theories; thus were described tuberculization of pus, tuberculous pus, gray tubercle, yellow tubercle, gray infiltration, tubercle granules, tubercle corpuscles, granulosis, albuminous tubercle, etc., etc. Indeed, the number of forms assumed by this disease was limited only by the number of writers upon it. This tended to give to the simplicity of the theories advanced by Laennec a great attraction to many, who held to them for sheer comfort of mind. Out of this dire confusion a way was opened by Virchow, whose cellular pathology gave us a positive science by which the theories of previous writers were exploded.

In the early part of 1882 Dr. Robert Koch made his name immortal by giving to the world the result of the researches and experiments[1] by which he swept away all false ideas that existed in regard to tuberculosis for a period of over two thousand years. It was then that he made the announcement that "tuberculosis is a specific, infectious disease, caused by a specific micro-organism—the bacillus tuberculosis—which constitutes, in fact, the true tubercle virus." This statement is one of the most remarkable, in its import, in the history of medicine.

Koch reached this position by the results obtained from experiments made with the tubercle-bacilli which he had artificially cultivated. He prepared a nutritive substance and introduced into it a speck of pus taken from a tuberculous human lung. In this way he obtained a number of bacilli, with which he infected fresh material, and by frequent repetition of this process, which he carried on for many months, he succeeded in obtaining bacilli very many generations removed from those taken from the diseased lung. These cultivated bacilli were

1 Die Etiologie der Tuberculose. Berliner Klin. Wochenschrift, 1882, No. 15.

introduced into the circulation of healthy animals, and in every instance induced tuberculosis. Tubercles in large numbers were found in the lungs, liver and spleen of all the animals thus experimented upon.

The labors of the illustrious Pasteur, of France, and of Koch, of Germany, are now well known to us all. They are the leaders of a host of equally zealous investigators who have acquired more or less distinction through their efforts in this direction.

Villemin,[1] Buhl,[2] Bollinger,[3] Fraenztel,[4] Balmer,[5] Ruhl, of Bonn,[6] Lichtheim,[7] the late Professor Cohnheim,[8] Gaffky,[9] Ewald,[10] Ehrlich,[11] Kowalski,[12] Wilson Fox,[13] Cheyne,[14] Shakespeare,[15] Sternberg,[16] Ernst,[17] Colin,[18] Tappeiner,[19] Williams[20] and others, who form a legion of self-sacrificing, earnest and conscientious workers, banded together in the interests of science and of their fellow-men, and inspired by the hope of being able

1 Gazette Med. de Paris, Dec., 1865. Also "Etudes La Tuberculose." Paris, 1868.

2 Lungenentzundung, Tuberculose und Schwindsucht. 1873.

3 Archiv. f. Experim. Pathologie, Bd. i. 1873. Also N. Y. Medical Record, March, 1884.

4 Berliner Klin. Wochenschrift, 1882, No. 45. 5 Ibid.

6 Medical Record, New York, May, 1883. 7 Ibid.

8 "Consumption as a Contagious Disease," London, 1880. Translation by H. D. Cullimore.

9 Report of the Imperial Health Office, Berlin, 1884. See Review of Amer. Jour. of the Med. Sci., July, 1884.

10 Med. News, Phila., Sept. 6, 1884, p. 275.

11 Deutsche Med. Wochenschrift, No. 19, 1882.

12 Wiener Medizinische Presse, Feb. 24, 1883.

13 Med. Times and Gazette, London, 1883, Vol. II, page 672.

14 Practitioner, London, 1883, Vol. XXX.

15 Proceedings of the Phila. Co. Med. Society, 1884, pp. 315, 320.

16 Medical Record, New York, Oct., 1884.

17 Amer. Jour. of the Med. Sci., Oct., 1883.

18 Med. Centralblatt, 1873, No. 30.

19 Virchow's Archiv, Bd. 82, 1880.

20 The Lancet, London, Feb. 24 and July 28, 1883.

at some future day to stay the progress of a malady which has been the occasion of more deaths than all the epidemics of disease, and all the disasters by land and sea, not only command the attention and support of the scientific world, but also the gratitude of every intelligent human being.

With a rapid but steady pace those observers are advancing on the road which will soon lead to the desired goal. The clouds of error are being dissipated by newly discovered truths, and to-day the subject of tubercular phthisis is better understood than ever before. It is my purpose this evening to bring to the notice of the Fellows of the College some facts by which, I think, the contagiousness of tuberculosis is clearly demonstrated.

Careful researches by De Quatrefages,[1] Cook,[2] Livingston,[3] Rush,[4] Budd,[5] and others, seem to prove that tuberculosis first appeared among the inhabitants of Europe, and gradually manifested itself in those parts of the world with which they had intercourse. If this is true, it is one of the best evidences of the contagiousness of phthisis.

A contagious or infectious disease can have but one cause, and this is eminently true of tuberculosis, which does not arise from a variety of causes, but is solely due to the tubercle-bacillus. Wherever this bacillus finds its proper nidus it will there develop and multiply; and, if this should be in living animals or human beings, the progress of the disease will be determined by the character and amount of food offered for the growth of this germ; thus with a nidus rich and plentiful we may have a case of acute phthisis lasting not more than

1 The Human Species, by A. De Quatrefages. N. Y., 1883, pp. 428, 430.
2 Ibid. 3 Ibid.
4 Medical Inquiries and Observations. Phila., 1789; p. 137.
5 The Lancet. London, 1867. Vol. II, pp. 451, 452.

thirteen days;[1] and, on the other hand, if the pabulum is poor and scant, the case may be a chronic one extending over a period of twenty-five years, such a case having occurred in my own practice.

The bacilli may enter the system through the lungs or by the stomach. The air we breathe, as well as the food we take, especially in the vicinity of the phthisical, may be laden with these germs. The air of the ventilating flues at the Brompton Hospital, when carefully examined, was found to contain tubercle bacilli in fair abundance.[2] The sputa of tuberculous patients drying upon our streets is ground into an impalpable powder by the feet of pedestrians, and is then disseminated through the air to be inhaled alike by the healthy as well as those predisposed to tuberculosis. Such sputa, mixed with the dirt of the street, have been collected, dried and powdered again, at frequent intervals during a period of several months. Guinea-pigs were then inoculated with this matter and in a short time the animals thus treated died of tuberculosis.[3]

To admit that the tubercle-bacillus is a pathological product is to express a belief in spontaneous generation,[4] and I feel sure that none of my enlightened hearers are prepared to subscribe to that doctrine.

It is asserted, by some pathologists, that other matter or ir ritant than the tubercle-bacillus is capable of producing the disease. This idea is not a new one, for Richard Morton says: "Chalky stones that are preternaturally bred in the lungs, or nails, or other hard bodies, slipping down into the

1 Medical Diagnosis, by J. M. Da Costa, M.D., LL.D. 6th Ed. Phila., 1884; p. 320.

2 The Lancet. London, July 28, 1883.

3 Med. and Surg. Reporter. Phila., 1884. Vol. I, p. 697.

4 Floating-matter of the Air. By John Tyndall, M. D. New York, 1882; pp. 277, 320.

lungs, when persons laugh, are to be recorded among the causes of a consumption of the lungs,"[1] and he narrates a case, p. 247.

It is also claimed by a number of writers that certain callings or occupations may be a cause of tuberculosis, owing to fine particles of dust inhaled by those employed. Thus coal miners, dry grinders, stone cutters, moulders, operatives in cotton mills, etc., are apt to have the disease. But those who believed that the dust breathed by individuals engaged in these occupations might occasion phthisis were evidently oblivious of the fact that the air carried, in the form of germs, far more potent factors; and while the dust may have produced an irritation of the air passages, the presence of the tubercle-bacilli was essential to the production of the disease. The inhalation of irritants, or lowered vitality, occasioned by certain occupations, may cause the predisposition, but they are never the cause of the disease *per se*.

Not all the predisposing causes united could in any instance induce tuberculosis without the advent of the tubercle-bacillus. That something more was needed was admitted by Pollock twenty years ago, when he declared that there must be "some subtle agent to precipitate, concentrate, and shape these elements of the disease into tubercle."[2] And Da Costa says, "Whatever it be, is something special.[3]"

Experiments have demonstrated, beyond doubt, that it is impossible to induce true tuberculosis in any case where proper precautions have been taken to remove from the irritant used all living germs. This is now accepted as a fact by many of those who once held a contrary opinion. Wilson Fox, Cheyne, Sternberg and others, who performed these experi-

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3 Loc. cit., p. 67.

1 The elements of Prognosis in Consumption. London, 1865, p 337.

3 Phila. Med. Times, June 19, 1880.

ments under the conditions mentioned, have acknowledged that under such circumstances it was impossible to produce the disease.

Objections are also made to the fact that these bacilli are the cause of tubercle, because they were not found in all the cases of tuberculosis examined by certain investigators. It is fair to presume that in these instances they must have escaped detection, since bacilli have been found in every case of tuberculosis examined by careful observers.

Many instances are recorded where foreign bodies have been carried into the lungs by gunshot wounds or otherwise, without occasioning much disturbance in the parts or seriously affecting the health.

Rush,[1] with his experience of the Revolutionary War, declared that he had never known a case of phthisis to result from wounds in the lungs, and this observation was supported by the Surgeon General of the Royal Army.

A number of cases of gunshot wounds of the lungs occurred during the late war, but, as far as known, they were not the occasion of any death by phthisis.[2]

I am free to admit that, in cases where a predisposition exists, it may be still further developed by the presence of an irritant, just as a furuncle in one individual may be harmless, and in another the starting point of a cancer. The late General Baxter,[3] of this city, received a wound in the lungs on the 6th of May, 1864, and was more or less actively engaged in his

[NOTE. That the excretion of these bacilli might prove to be the *materies morbi*, was suggested by me some time ago; and this opinion is also entertained by Dr. G. M. Sternberg, U. S. A., who subsequently made the same suggestion in the *Med. Record*, N. Y., Oct. 25th, 1884.]

1 Medical Inquiries and Observations. Phila., 1805, Vol. II, pp. 72, 73.

2 Med. and Surg. Hist of the War. Second issue, 1875, Part I, Surg. Vol., p. 478, 481.

3 The Daily Evening Telegraph, Philadelphia, May 10th, 1881.

duties until twelve years afterwards, when, during a fit of coughing, he ejected what appeared to be a hardened bit of pus. This, upon examination, proved to be the envelope of a small piece of coarse, red cloth, half an inch in diameter (such as is used for the stiffening and padding of coats), which had been carried into his lungs at the time he received the wound in 1864. During all this interval there had been a constant suppuration of the lungs, occasioning considerable discomfort, but not sufficient to render him unable to fill several important positions demanding his careful attention. Three years after expelling the foreign body (seventeen years from the time he received the wound) he died, it is said, from phthisis. In this instance, admitting that he died from phthisis, a predisposition to the disease was evidently established by a greatly lowered vitality, occasioned by the long continued suppuration. For twelve years he lived without a sign of phthisis; but after he had rid his lungs of the original irritant, the bacillus tuberculosis found its way to the rich soil so long prepared for its reception, and there multiplied until the life of the individual was ended.

So certain diseases, occasioning an irritation or a lowered vitality of the pulmonary mucous membrane, have the reputation of being the indirect causes of tuberculosis. Measles, especially when occurring in children of phthisical parents, are liable to have consumption as a sequel. The mucous membranes are implicated in this disease, probably more so than in any of the eruptive fevers; the epithelium is cast off, and the denuded membrane exposed to the direct contact of the tubercle-bacillus.

It has been satisfactorily demonstrated that tuberculosis may be caused by inoculation in the human subject. Laennec, whilst examining a vertebra containing tubercle, slightly

wounded one of his fingers with the saw blade. In the site of this wound a small, round tumor subsequently appeared, which, upon investigation, exhibited all the physical characters of tubercle. It was destroyed by the application of an escharotic, and no bad effects resulted from it.[1]

Another instance was that of a fisherman free from tuberculosis, but suffering from gangrene of the toe, who was purposely inoculated. Thirty-seven days after the experiment he died, and the autopsy revealed a tuberculous deposit in the lungs and liver.[2]

But the most satisfactory evidence of the effects of inoculation of tubercle is that presented in the case recorded by Dr. E. A. Tscherning.[3]

The subject, employed as cook in the family of Professor H., was a perfectly healthy woman, about twenty-four years of age, with a history unexceptionally free from any hereditary taint of scrofulous or tuberculous affections. After a short illness the Professor died of phthisis. The cook unfortunately broke the glass sputum-cup used by her employer, and a spicula from it punctured one of her fingers. Fourteen days afterward there appeared at this point what seemed to be a felon. This was treated at Professor Studgaard's clinic, and at the end of a few weeks the finger was much better; a little nodule, however, about half as large as a pea, was found to exist in the subcutaneous connective tissue, which after awhile became tender and œdematous. This was now cut out, and the wound healed readily. About three months from the time of the accident, Professor Studgaard found that the sheath of the

1 Diseases of the Chest. Translated by J. Forbes, M. D., London, 1834, p. 305.

2 Gazette, Med., 1872, p. 192. Quoted in Biennial Retrospect of Med. and Surg., 1871-72, p. 38.

3 Hospitals-Tidende, Copenhagen, Dec. 17th, 1884.

tendon was thickened, and two cubital and two axillary glands were enlarged. He disarticulated the middle finger, and the tendon, with its thickened sheath, as well as the enlarged glands at elbow and axilla, were dissected away. Upon examination, the sheath of the tendon was found to be filled with pale granulations. Sections of the sheath and of the extirpated glands were subsequently subjected to microscopic investigation, and numerous tubercle-bacilli found in them, which positively established the peculiar character of the affection.

Dr. Tscherning has observed upwards of thirty cases of localized tuberculosis, and in each instance the microscopical appearances were the same as in this case.

Many eminent men, by their constant attendance upon the phthisical and by their close and frequent study of the post-mortem conditions of their cases, have been made victims to the disease themselves. Among those who have met death in this way may be mentioned Bayle, Laennec, Delaburg, Dance, Young-Thomas, and many other names could be added.

Much stress has been laid upon heredity as being one of the chief causes of the vast mortality from this disease. It is my belief that phthisis is never transmitted from parent to child; it is simply a predisposition that is inherited. By predisposition I mean a greatly lessened power of resistance in the tissues, especially in the lymphatic system. If tuberculosis was inherited we might expect to find some indications of this in the fœtus, but the observations of Guizot,[1] Gluge,[2] Heller,[3] and Virchow,[4] have shown that this is not the case. In 1,300 fœtuses examined by Heller there was no evidence of a tuberculous taint in any one of them, notwithstanding

1 Quoted by Dr. Durant. Trans. of the N. Y. State Med. Soc., 1878, p. 174.

2 Ibid. 3 Medical News, Phila., 1884, p. 302. 4 Ibid.

the fact that in one instance the patient died of phthisis with the fœtus in utero. Virchow, with his experience of more than fifty years, says: "He had not seen a single case of direct transfer in the fœtus." This also holds true in regard to the offspring of animals which have been under observation while suffering from tuberculosis; there is no instance on record in which they have exhibited a trace of the disease.[1]

The presence of the disease in infants is undoubtedly due to the bacillus, or its spores, contained in the milk of the phthisical mother, or in the air it is constantly obliged to breath.[2] In other words, the disease is not transmitted, but it is acquired. I have elsewhere shown the fallacy of the hereditary transmission of the disease.[3]

There are but few insurance companies that will accept as a risk any one whose family history is not clear of tuberculosis; hence it would seem that such careful exclusion would remove all questions of hereditary transmission in those losses which they may sustain by deaths from phthisis. One of the most conscientious companies in this respect is The Mutual Life Insurance Company, of New York. It is especially careful in excluding such risks, and will not only refuse to accept an applicant who has a phthisical history, howsoever remote, but will not regard an application in which there is the least evidence of a predisposition to the disease, no matter what the age of applicant may be. Notwithstanding the exercise of an unusual amount of vigilance, they are nevertheless obliged to declare that "Consumption has been the occasion of more deaths than any other disease, giving a percentage of $17\frac{16}{100}$ of the total mortality; while deaths recorded under other

1 Practitioner, London, Vol. XXX, 1883, p. 318.

2 British Med. Jour., 1879, Vol. XX, p. 616.

3 "Reasons for Believing in the Contagiousness of Phthisis." Read before the Philadelphia County Med. Society, June 11, 1884.

headings, but properly belonging to this, would swell the number to 20 per cent."[4] Here, then, is a freedom from an hereditary taint as far as rigid examinations are capable of determining it. Under such circumstances the rate of mortality is surprising, to those, at least, who have faith in the hereditary transmission of the disease. A few years previous to that in which this report was made, the death rate from consumption in the adult male population of New York City was $30\frac{1}{100}$ per cent. This but little over 13 per cent. of the deaths among those who were considered especially exempt from the disease.

It would be impossible to enumerate the so-called causes of tuberculosis. The disease has been attributed to every imaginable influence which could occasion a morbid condition of the system. This error is readily accounted for when it is understood that any influence which will bring about a lowered vitality of the body will induce a predisposition to the disease, which is established by the presence of the bacillus tuberculosis.

Age.—In looking over "health reports" and other statistics, I have been surprised at finding records relating to the time of life when tuberculosis is most prevalent, which are entirely at variance with the ideas entertained by many practitioners. It is very generally believed that at the age of puberty, especially in those supposed to possess hereditary taint, phthisis is most apt to manifest itself, and that the liability to contract the disease is lessened with advancing years. It seems, however, that this is not the case, for in early childhood and at puberty the mortality is less than at any other period of life. There is reason for believing that the best way to determine the time of life at which the disease is the most fatal is to

4 Preliminary Report of the Mortality Experience of The Mutual Life Insurance Company, of New York. New York, 1875, p. 12.

compare the death rate occasioned by it at certain periods of life with the number of living persons at the same age. This has been done by several reliable persons, including Dr. Edgar Holden,[1] and I will read to you an interesting table prepared by A. Wuerzberg, the librarian of the Imperial Health Office at Berlin, Prussia.[2] This table is as follows:

Of 10,00 individuals aged	0– 1	year	there die	annually of	consumption $25\frac{43}{100}$
"	"	1– 2	"	"	$20\frac{41}{100}$
"	"	5–10	"	"	$4\frac{66}{100}$
"	"	15–20	"	"	$18\frac{87}{100}$
"	"	20–25	"	"	$30\frac{24}{100}$
"	"	25–30	"	"	$36\frac{78}{100}$
"	"	30–40	"	"	$41\frac{12}{100}$
"	"	50–60	"	"	$67\frac{94}{100}$
"	"	60–70	"	"	$93\frac{18}{100}$
"	"	70–80	"	"	$61\frac{72}{100}$
"	"	over 80	"	"	$25\frac{80}{100}$

This table goes to show that at the two extremes of life, where vitality is at the lowest, thus lessening the power of resistance, the disease is most fatal.

It must not be forgotten that among the many causes which lead to a predisposition to tuberculosis, conditions of mental depression play an active part. Bad habits or immoral conduct, which lead to bitter regrets; or domestic infielicity, occasioning long continued fret and worry, will produce a depression of this character more or less marked. A case recently came under my notice in which the patient's health was first affected by the unfortunate conditions of his domestic affairs; they were the occasion of continued anxiety and worriment for several years, and finally brought him into a condition of nervous exhaustion. This was soon followed by the signs of phthisis, and he died about six months afterwards. In this case the predisposition was certainly due to a lowered vitality,

1 The Medical Record, New York, July 12, 1884.

2 American Journal of the Medical Science, July, 1884, p. 192.

induced by long-continued mental depression, aided somewhat by the patient's occupation, which was that of a book-keeper. There was no hereditary tendency to the disease, and had he been more fortunate in his domestic relations he might still be living.

The following interesting cases, which I have personally investigated, will go to support some of the assertions I have made in my paper:

Case 1.—J. E., an invalid, was married; twelve months afterwards his wife gave birth to a child, and in the following month the father died of phthisis. At the age of five months the child died of marasmus, and in sixteen months after her accouchment the wife died of phthisis. She was of a healthy and long-lived family, but had occupied the same room with her husband during his illness.

Case 2.—S. Y. was a healthy young man who married a lady that was physically below par. About a year after marriage she gave birth to a child, and from this period onward she declined in health and ultimately died of phthisis five years afterwards. Eighteen months prior to her death her husband exhibited symptoms of tubercular laryngitis, and died of consumption four weeks before his wife. In this case I ascertained that the wife had come from a tuberculous family (her parents and five sisters having died from the disease), while in the husband's family there was not a trace of tuberculosis, his parents living far beyond the allotted three score and ten, and his brothers and sisters in the full enjoyment of health. This gentleman, who was greatly devoted to his wife, and had been constant in his attendance upon her and had slept in the same room.

Case 3.—I. R., a young man, aged twenty-seven, of very temperate and regular habits, who presented no family history

of tuberculosis, and whose constitution and general health were excellent, married a young lady of delicate health, in whose family consumption had caused the death of father, mother and three sisters. The occupation of the young man was that of ticket agent in a railroad office. About three and a half years after his marriage he became ill, and a year after the commencement of his illness died of phthisis. Two years and a half susequent to his death his wife died of the same disease.

In the first case narrated to you the healthy, robust bride certainly contracted the disease from her husband. In the second case the young man, with an excellent family history and good health at the time of his mrrriage, not only contracted the disease from his phthisical wife, but died of it four weeks before she did. In the third case we have a healthy, and vigorous young man, with an excellent family history marrying a phthisical girl from a phthisical family, and what is the result? Through his close companionship with his consumptive wife he contracts the disease which occasions his death two and a half years before his wife succumbs to the malady.

I might add to this list a number of similar cases, were it necessary to do so, for I have the notes of many which prove conclusively the contagiousness of phthisis. Indeed, any one can lay his hands upon recorded cases without number which would convert even the most skeptical to this belief.

No one, not even the non-contagionists, can declare that the cases I have narrated are simply "coincidences." The experience of medical men, especially of those who are engaged in the treatment of lung disorders, must be similar to my own, and I cannot see how there can be a question in their minds in regard to the contagiousness of phthisis.

If the most convincing proof of the truth of a comprehensive

theory lies in its power of absorbing and finding a place for new facts, and its capability of interpreting phenomena which had previously been looked upon as unaccountable anomalies,[1] then I know of no theory more truthful than the one which I have advocated before you this evening. It will fully explain every phenomenon connected with this malady, the universal mortality it occasions in every part of the world, and why one member of a family after another, with no hereditary predisposition, has succumbed to its power.

It is a singular fact that in all the recorded cases where the disease has been occasioned by close association with the phthisical, as in nursing, it has been unusually rapid in its course, frequently carrying off those unfortunates during the lifetime of those from whom the disease was contracted.

And what does all this teach us? Simply this, that our real strength in battling with this terrible disorder lies not so much in medication as in the application of hygienic and sanitary laws.

Surgeon General Von Lauer, of the Royal Prussian War Department, in a letter dated October 16th, 1884, kindly enclosed to me a copy of the instructions which he issued in regard to diseases of the lungs. They are of such importance that I quote them in full. It is also of interest to know that in Austria, where the bacillary origin of tuberculosis met with greater opposition than anywhere else in Europe, the Government has recognized its infectious nature and has issued official instructions similar to these of Surgeon General Von Lauer. The same precautionary measures should be adopted in the hospitals of our own country, and it is fair to assume that this will be done.

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1 Contributions to the Theory of Natural Selection. By A. R. Wallace, London, 1870, p. 45.

[COPY.]

DEPARTMENT OF WAR.

BERLIN, Aug. 31st, 1882.

The various detailed reports which, in pursuance with request of Nov. 24th, 1881 (No. 157, II, M. M. A.), have reached this Department, have clearly shown that there exists no material difference of opinion regarding the reasons for the high annual sick and mortality rate from consumption during the time of active service.

The universally acknowledged causative relations will necessarily lead to still greater caution in the treatment and care of those exhibiting the earlier symptoms of chronic pulmonary disease, as well as those in whom a predisposition is suspected or clearly discernible. The prescribed regulations should therefore be borne in mind, in order that the number of consumptives in the army may thereby be diminished. The following instructions must always be carefully observed:—

1. Although the predisposition to affections of the lungs cannot be objectively determined, and the time permitted the surgeon during the recruiting service often not extended enough to permit a careful and searching examination, to determine this question, the medical officer in charge is earnestly urged to consider the build, configuration and exhaustibility of the thorax. In this connection he is to adhere closely to the instructions of April 8th, 1877, regarding the normal limitations. Shoemakers and tailors (Oekonomiehandwerkern) of delicate frame require very careful inspection of the chest organs.

When the circumstances attendant upon the recruiting service are not favorable to exact examination, special attention is to be paid to more rigid inquiry when the recruit reaches his regiment, as directed in Par. 13 of the instructions. Here it will be of value, in forming an opinion in your cases, to seek direct officinal information regarding family history or previous disease of the lungs or pleura.

But in order not to lose sight of those cases which have

either been overlooked at the first inspection, or whose character could not then be ascertained, the recommendation of the various corps surgeons, that, with the coöperation of the proper authorities, medical examinations should be repeatedly made at stated intervals, should be particularly borne in mind, with special attention directed to those in whom disease of the respiratory organs is suspected. Special records, carefully noting the condition at each examination, must be kept. The extent to which the weakly are to be spared the arduous work of the training must be determined by the requirements of individual cases. The industrious use of douche baths, to harden the skin and accustom to exposure, naturally suggests itself here.

2. The attention of surgeons is directed to the fact that the instructions (Par. 5, Sec. 4, to Par. 7, Sec. 2) do not permit a judgment upon volunteers without considering their fitness for field service. Complete fitness, therefore, is indispensable to a declaration of efficiency.

3. For convalescents from acute disease of the respiratory organs a prolonged period of after treatment and care is desirable. If the circumstances of the patient make home attention attainable, and only then, is a lengthy furlough to be recommended. Those returning from such furloughs are to be carefully reëxamined, and, if necessary, their transference to the appropriate health resort taken under advisement.

4. That the first symptoms of disease of the lungs may not be overlooked in making the round of the barracks, particular attention should be paid to apparently mild "catarrhs," utilizing, if necessary, evening temperature measurements. Doubtful cases should be transferred to hospital for observation.

5. The opinion of many medical officers, that prompt measures should be taken for the discharge of sufferers from chronic pulmonary disease, should not be forgotten. That even one attack of hæmorrhage (Bluthusten), if it is proven to be of undoubted pulmonary origin, is sufficient cause for discharge, and is especially emphasized. That the early dismissal of cases affording no probability of usefulness to the service removes a

source of infection for hospital and barrack, must be viewed as by no means the least important advantage of this provision,

Now that experimental pathology has furnished exact scientific corroboration of the theory of infectiousness of phthisis, more importance than ever must be attached to the separation, both in hospital and barrack, of those afflicted with or suspected of phthisis, from other patients, especially from those suffering with inflammation of the lungs or recent bronchial catarrh. The sputum being the principal carrier of the disease germ, and consequently the principal source of infection, provision for its removal and disinfection (Unschadlichmachung) follows as a matter of course.

In answer to the question raised by this Department, as to whether new measures for the diminution of the number of cases of phthisis, with particular reference to the necessity for the establishment of climatic summer or winter stations for their treatment, were called for, the responses were unanimous against such establishment. The indications for them were considered uncertain, and the existing provision adequate for the present necessities of the army. The Department endorses this view, and is convinced that the careful observance of the general directions herewith transmitted will be of interest and service to the army as well as to the patient. Although tedious attempts at cure by long-continued stay at climatic stations may be considered of doubtful value to the phthisical patient, and not at all likely to furnish the army with a soldier fit for field service, the prompt despatch of a convalescent from an acute non-phthisical affection of the respiratory apparatus to an appropriate station, is warmly to be recommended. Such station, from among those at the disposal of the Department, is to be carefully selected, and treatment conscientiously carried out.

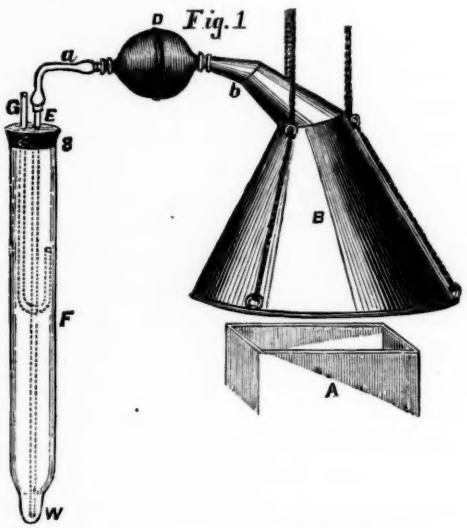
This communication, with five copies, is transmitted to you, with the request that you submit your views to the General Commanding, and instruct the sanitary officers of the corps to be guided thereby. (Signed) V. LAUER-STRUBE,

Department of War, Army Medical Division.

To all Royal Corps Surgeons, No. 20, 4, 82, M. M. A.; 64, 9–84, M. M. A.

Like other disease germs the tubercle-bacilli are carried by the air, and will, of course, be found to be more plentiful in the vicinity of the victims of tuberculosis. A single bacillus may as surely induce the disease as the presence of a great number; and since we are at no time free from the chance of inhaling this germ, our safety lies in avoiding a "predisposition" to lung troubles. In order to determine whether the bacilli might be readily found in the air of the street, or of places of public resort, I have constructed the instruments which I now show to you.

Fig. 1

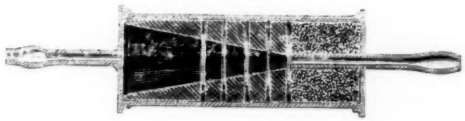


The first apparatus I had made was after the plan of the ordinary inhaler (as shown in the accompanying engraving, Fig. 1). The long tube (E) passed into a little well (W) at the bottom of the bottle containing glycerine, which was intended to retain any germs carried by the air passing through it; by rotating the bottle its sides were also smeared with glycerine, to give a still larger surface of glycerine for the

contact of the air which, after entering the funnel (B), was forced through the apparatus by using the pump (D). This was undoubtedly an effective germ trap, but the impossibility of drying the glycerine, which it was necessary to do in order to obtain microscopic proof of the presence of bacilli, obliged me to devise another method of obtaining them.

The second trap consisted of a brass cylinder containing a series of snugly fitted steel discs (as shown in the illustration, which gives a sectional view, Fig. 2). Each disc was perforated in such a manner that, when placed together, the

Fig. 2.



openings formed a cone. Between each of these discs, across their openings, thin layers of pyroxylin were placed; the discs were then introduced into the cylinder, which was tightly fastened. To one end of the cylinder the pump connection was affixed, and the other end was connected with the funnel, which was placed over the ventilating flue, to take the air. When the pump was put in motion it drew the air through the apparatus and necessarily through the veils of pyroxylin held in position by the metal discs, the pyroxylin thus serving to intercept the passage of any germs.

With this apparatus I visited a number of places of public resort, and through the courtesy of those in authority I was given free access to the parts of the establishments wherein the exit flues were located. These flues, in all instances except one, were placed in the ceiling of the auditorium and directly over the audience. Here I placed the funnel-shaped extremity of the apparatus, and its pump was kept continu-

ously in motion until fifteen or twenty minutes after the audience had retired. This experiment was repeated a number of times at each establishment I visited. The trap was then dismantled; the thin layers or veils of pyroxylin were removed from between the steel discs, and placed in the hands of Drs. E. O. Shakespeare and Morris Longstreth, for microscopic examination. These skillful microscopists have made the following reports:

PHILADELPHIA, Feb. 3d, 1885.

Dear Doctor: The specimens of pyroxylin (Nos. 1, 2, 3 and 4) which you sent to me to examine microscopically for the presence or absence of tubercle-bacilli, were variously treated. Nos. 1, 2 and 3 were separately dissolved in a mixture of absolute alcohol and strong ether. The collodion thus formed was handled in either of two ways: *a*, a thin film was deposited on a thin cover glass, such as is used in mounting of microscopic objects, and was stained in the manner recommended by Koch for the demonstration of the tubercle-bacillus; or, *b*, the collodion was excessively diluted in a test-tube, by addition of relatively large quantities of alcohol and ether, and then allowed to stand for some hours, in order that suspended portions might fall to the bottom. The fluid was then carefully drawn off. The sediment at the bottom of the test-tube was mixed with a drop or two of sterilized beef-peptone-fluid, such as I keep in stock for bacteria-culture use, and was spread in a thin film upon a cover glass. This film was also treated in the manner above mentioned for the demonstration of the tubercle-bacilli. I had, however, considerable trouble in following these methods. There was great difficulty in decolorizing the film; many times this seemed quite impossible.

In these three specimens of pyroxylin I found no bacilli tuberculosis.

No. 4 I determined to treat in another manner. I employed two different methods: *a.* I took portions of the pyroxylin and stained it, as I would do sections of tissue in

which I wished to seek for tubercle bacilli, namely, in the manner recommended and practiced by Koch. Methyl-violet being the color used in the aniline oil mixture. These were subsequently mounted in balsam in the usual way without converting them into collodion. *b.* Other portions of the pyroxylin were stained with fuchsin as the color of the aniline oil mixture. After staining in the usual way, including the methyl blue as contrast color, the pyroxylin was placed on an object-glass slide for the microscope and converted into collodion by using a mixture of ether and alcohol. As soon as it was dissolved a thin glass cover was placed over it. This latter method, in my hands, was by far the most satisfactory.

In the portion of pyroxylin prepared by the "*a*" method, I found two objects which, by their size, shape and color, had they been isolated and seen in sputum, I would have taken for tubercle-bacilli, but these objects were attached to fibers of pyroxylin which, in spite of the successive action of weak nitric acid and of strong alcohol, and in spite of the subsequent use of Bismarck brown as a contrast color, were also tinted violet. This observation must, therefore, be classed as negative, or, at least, doubtful.

In the portion of pyroxylin treated by the latter method, "*b*," I found, after painstaking search, one bacillus, which, on account of its size, shape, and quite characteristic color (bright red, the ground being blue), I had no doubt was a tubercle-bacillus. There were two other rod-like forms which in size and shape appeared identical with tubercle-bacilli, but the color which they showed was so indistinct that it could not be safely made out. I have to report, then, the finding of one tubercle bacilli in the specimen marked No. 4. There were, of course, numerous other objects in all the specimens examined, but as you wished only to know of the tubercle-bacillus, I have thought it needless to particularize concerning them. Yours very truly, E. O. SHAKESPEARE.

To Dr. W. H. Webb.

PHILADELPHIA, Feb. 4, 1885.

Dear Doctor: In compliance with your request I enclose you the following report on the examination of pyroxylin from your germ-trap, in relation to the presence or absence of the bacillus of tuberculosis (Koch).

The material consisted of five small pledgets of cotton, contained in a small phial, sealed with paraffine.

The five portions were carefully kept apart and examined separately.

The staining method employed was that recommended by Koch: Aniline oil and fuchsin, bleached with dilute nitric acid, washing with dilute alcohol, contrast stain with methyl blue (in some slides), and washing finally in absolute alcohol. The only variation made in this method of mounting as usually practiced was in using a dammar medium instead of Canada balsam, which I have employed, since I have found that the dammar hardens more rapidly than the other. The examination of the specimens can be made with the oil immersions lenses more promptly, without the risk involved in displacing the cover glasses, should the oil come in contact with the mounting medium. It was found by a preliminary examination that four of the five specimens of cotton were not likely to furnish any number of bacilli, and the further search among these four specimens was consequently abandoned.

The fifth specimen, labeled No. 1, engaged the sole attention of further examination, as it was composed of the cotton which first met the current of air as drawn through the trap.

The cotton was very much discoloured by dust and other matter, particles of which could easily be shaken off from it. Care, however, was observed so as to lose as little as possible of these adhering matters.

The staining, bleaching and other steps in the mounting were carried out by first placing the cotton in a watch glass containing the aniline fuchsin stain and allowing it to remain, tightly covered, for twelve hours. Portions of the cotton were then thinly spread on a cover-glass, and the subsequent steps of the operation carried on in this position. It has been usual,

I believe, in examining gun-cotton, to detect the presence of objects capable of being shown by a differential staining, to convert the cotton into collodion by admixture of ether and alcohol. This method I avoided, in the chief examinations, as being essentially faulty, since if the bacilli should be present in a dried film of collodion it would be impossible for the staining agents to come in contact with the micro-organisms buried in the depth of the film.

Very considerable difficulties and much tedious searching were encountered in the microscopic examination, owing to interlacing and overlying arrangement of the cotton fibers. For although the strongest pressure was placed on the covers which the glass would stand—and many specimens were lost in this manner—nevertheless the depth of the material presented a field of much confusion. The confusion was somewhat lessened, but not removed, by adding another step to the process of mounting, viz., by treating the cotton after staining and bleaching with a mixture of ether and alcohol, for the purpose of converting it into collodion. While this treatment dissolved the cotton fibers still some fibers of flax and wool were left. It did not, of course, help the confusion due to large amounts of dirt particles which were present. It was hoped that by thus making a collodion of the gun-cotton after the staining process was completed, some advantages might be obtained. Such, however, was not the case. The examination of six slides from specimen No. 1 gave the following results:

Slide a. 1 bacillus, 1 doubtful.
" b. 6 bacilli.
" c. 3 "
" d. 1 bacillus.
" e. none.
" f. uncertain.

It is not intended to convey the idea that these were the only bacilli present. A very careful examination might reveal the presence of more organisms. For the uncertainty of the examination excuse must be found in the nature of the mate-

rials dealt with; the impossibility of rendering the layer of material of uniform thickness, as can be readily done with sputa and with sections of tissue; the very large amount of dust particles scattered through a layer of considerable thickness; the facts, also, which I have not seen alluded to previously, that many fibers of cotton have in them clefts, which retain staining material in spite of bleaching; many of these clefts closely approach in length and breadth the figures of the bacillus; and, finally, the short time which I have been allowed for the work since the specimens were placed in my charge for examination.

Yours very truly,

MORRIS LONGSTRETH.

To Dr. W. H. Webb.

The layer or veil of pyroxylin through which the air from the flues first passed seems to have stopped the passage of all germs and other atoms, and in this way acted as a trap, to the exclusion of the other veils of pyroxylin placed between the discs for that purpose. Unfortunately, the portion submitted to Dr. Shakespeare for examination was not of the first layer, and to this may be attributed his inability to find more than one bacillus.

Furthermore, the number of bacilli found by Dr. Longstreth in the minute particle of the material he examined seems to indicate the presence of vast numbers of these germs in the entire layer removed from the trap.

And now, in conclusion, I desire it to be understood that I have spoken, not so much to maintain a proposition as to reveal the truth; and that in giving you the opinions of those who have beaten a path wherein we may the more easily travel, I have but done justice to a class of men equally endowed as ourselves to observe and to reason from cause to effect. I would also state that the aim of this paper is simply to emphasize facts, leaving you to deal with them as your wisdom may

dictate. A careful analysis of the writings and investigations of those who have given special thought to the subject which I have treated, reveals the fact that since the time of Hippocrates there has been a gradual but steady progress towards the grand beacon which now illuminates our way. The very slowness of the advance, the suspicion with which the announcement of every new development has been received, and the earnest criticism to which they have been subjected, insures the safety of our position to-day. Apart from the ocular demonstration of scientific investigations of modern times, and from a purely clinical standpoint alone, the weight of evidence as to the contagiousness of tuberculosis must certainly be appreciated by you all. Even those who do not acknowledge it in words, proclaim it by their manifestation of doubt, and quiet avowal that there is something lacking which will enable them to fix upon the cause of a disease maintaining such marked characteristics from age to age, and among all people.

We are living in a scientific age, and the medical profession is thoroughly imbued with its spirit and import. We deal with facts, and are little inclined to give heed to that which is purely speculative. Such superstitions as the "Royal Touch" belong to a departed age. "Coincidences" and "Happened so's" serve no longer to answer our inquiries concerning the causes or nature of disease. Never before have we been so well established in respect to the means and methods of making research and experiments in the domain of medicine, and never before have the searchers after its truths been more earnest in their efforts or more hopeful of grand results. The discovery of the tubercle-bacillus is a scientific fact; all, with the same facilities, may see what others have seen. It is the one thing tangible, describable, known by its peculiarities among entities as readily as one individual is

known from another. To doubt its existence in tuberculosis, is to doubt the utility of scientific medical research, and to abandon further progress to the unstable dreams of theorists. The sputa of the phthisical contain these germs; the air they exhale is loaded with them or their spores, and introduction into the system of animals will always produce tuberculosis *while nothing else will.* These are not speculations, but demonstrable facts! Furthermore, clinical observations go to prove conclusively that healthy individuals, living in an atmosphere contaminated by the phthisical, will contract this disease, and not any other which might be due to a lowered vitality, from being in close quarters and breathing a vitiated air. That there is yet much to be learned in regard to the tubercle-bacillus there can be no doubt. Still, having made a wide breach in the walls that hemmed in the mystery of tuberculosis, it behooves us to press on to its complete solution.

And now, Mr. President and Fellows of the College, my remarks on the question at issue are, for the present, at an end; but I feel that I would be recreant to the cause I have espoused did I not avail myself of this opportunity to state that, in more than one instance, in articles recently published, the non-contagionists, it seems to me, have willfully, unhesitatingly, and without warrant, perverted the language, even absolutely falsifying the statements, of authors they quote in support of their cause. That such reprehensible practices should be resorted to, for what must necessarily be but a momentary triumph, is of itself strong evidence of the vulnerability of their position, and requires no word of condemnation from me; nor would I think proper to notice it at this juncture, were it not to point out the necessity for all conscientious investigators to verify every and all citations by referring, wherever possible, to the

original documents. And if my feeble efforts have, in the slightest degree, advanced the cause of truth and humanity, my labour has not been in vain. Now—

"Say as you think, and speak it from
your souls."
"What you do
Still betters what is done."

CLINICAL REPORTS.

FIBRINOUS PNEUMONIA.

Among the many interesting cases in the Medical Clinical Institute at Genoa, directed by Prof. Maragliano, there were two patients affected with fibrinous pneumonia, which, for the course and result of the disease and also for the method of treatment employed, deserve special notice. The history of one of them is as follows:

A man, 44 years old, a blacksmith by trade, suffered some twenty years ago from a right-sided pneumonia. Recovery was complete. He never abused alcoholic drinks. On the 12th of January, last, he was taken with a rigor, pain in the right mammary region and the epigastrium, accompanied by a violent cough, with which he expectorated sputa, tinged with blood. He complained of intense cephalalgia. On the 14th, he entered the *clinique;* his temperature in the axilla was 39.6° C. On examination, he was found to be a man of robust constitution, in the left lateral decubitus. The right half of the thorax dilated less than the left, the number of respirations was 50 per minute. On percussion, nothing abnormal was noted anteriorly: posteriorly, there was found hypophonesis

from the angle of the scapula to the base of the right thorax, hypophonesis at the left base, increased vocal fremitus, bronchial breathing and crepitant râles.

Heart, spleen and liver, normal; nothing abnormal in the urine, except an abundance of uroerythrin. The patient was submitted, as is usual in this *clinique*, to the stimulant treatment,—that is, a tablespoonful of a potion, containing fifteen per cent. of alcohol, every hour, and 25 centigrams of caffeine every four hours. On the 15th, the fourth day of the disease, the temperature was 40° C., pulse 112, respiration 48. No change in the respiratory organs. On the 16th (fifth day of the disease) the hypophonesis of the right base posteriorly changed into dullness—the same numerous crepitant râles persisting at the left base, pulse 90, respiration 48. On the 17th (sixth day of the disease), the temperature, taken hourly, varied from 38.5° to 39.5° C. On palpation, bronchial fremitus was observed anteriorly, on the right and left sides. Dry cups were applied. 18th, the patient passed the night in delirium. The temperature varied from 37.7° to 39.6° C. On the right side posteriorly and in the lower region, there were heard crepitant and subcrepitant râles, and small mucous râles. To the left, subcrepitant râles—the bronchial fremitus persisted anteriorly. Dry cups were applied, and a hypodermic injection of hydrochlorate of quinine, as a heart tonic, was exhibited. At noon the pulse was 120 and small. Hypodermic injection of sulphuric ether was given. 19th (eighth day of disease), delirium. The temperature varied from 38.6° to 39.6° C.; pulse, 116. The bronchial fremitus persisted anteriorly. Posteriorly to the right, there were heard coarse mucous râles, and coarse subcrepitant râles at the left. Injection of ether. At noon the pulse 114, the patient was brighter, answered questions, the temperature was 38° C. An enema of three grains of

antipyrine was given, and after four hours the temperature fell to 37.8°, continuing at this four hours. The vocal fremitus persisted and dry cups were applied. 20th (ninth), temperature 38.2°. The bronchial fremitus has disappeared. Evening, temperature 39°, pulse 112, small and irregular. The bronchial fremitus reappeared. A grain of ether was injected, dry cups were applied, and three grains of antipyrine were given in an enema. The temperature fell after six hours to 37.4° C., and continued at this seven hours.

21st (tenth), the same symptoms of the respiratory organs were persistent. Inhalations of oxygen were given. 22d (eleventh), the bronchial fremitus had disappeared. There was an abundant expectoration of muco-purulent sputa, nummular and puriform. A grain and a half of bisulphate of quinine was prescribed, and a tablespoonful of Marsala wine hourly. 23d (twelfth), temperature 37.6°. Symptoms unchanged. There were prescribed every three hours inhalations of three cylinders of medicated compressed air passed through a saturated solution of iodoform in the essential oil of turpentine, also a tablespoonful hourly of three grains of oil of turpentine in 300 grains of gum arabic emulsion. 24th (thirteenth), nothing new. 25th (fourteenth), pericardiac fremitus and a friction sound was noticed. 26th (fifteenth), diminished respiration without pus. A slight improvement, the temperature did not exceed 38.8° C. Secretion of urine increased (2,400 c.c. in 24 hours). 27th (16th), temperature 38.9°, pulse 120, respiration 48. Harsh breathing anteriorly at the right and left. Posteriorly at the right the dull sound was changed into tympanitic, the mucous râles were less numerous than on the preceding days. The patient was given a mixed diet of meat, eggs and milk. Continued to take inhalations of medicated compressed air, and took four pills of strychnine, of a milligrain each, daily.

28th, 29th and 30th (17th, 18th and 19th day of disease), nothing new.

31st (20th), the improvement continued; expectorated freely; the temperature did not exceed 38.2° C. in the evening.

February 1st (21st), pericardial symptoms disappeared; the improvement continued.

2d, 3d and 4th (22d, 23d and 24th), nothing new.

5th (25th), râles fast disappearing. Temperature did not exceed 38° in the evening. 6th (26th), the oil of turpentine internally was stopped, and four tablespoonfuls of cod liver oil with half per cent. of pure creosote were given.

7th to 15th (27th to 35th), the patient was apyretic, the appetite is fair, the cough less frequent, the expectoration muco-salivary, with some muco-purulent sputa. Posteriorly to the left the diminution of resonance at the base continued, with harsh respiration and some small mucous râles. The resonance had returned to the right, the râles were few.

The history of the other patient was about the same.

On these two patients, Prof. Maragliano gave a clinical lecture. He examined the different conditions capable of continuing the fever in a fibrinous pneumonia. The fever may be continuous, sub-continuous and intermittent. The conditions maintaining it are, the formations of cirrhotic parts, when the fever has fallen by crisis; from the eighth to the ninth day, there lights up again the gray hepatization, or the purulent infiltration, or the pulmonary abscess, the gangrene, or the caseous change of the exudates. But the *pulmonary abscess* gives rise to a remittent fever, a purulent expectoration and all the symptoms of the formation of a cavity in the parenchyma of the lungs. The *gangrene*. Besides the typical remittent fever with sweats and rigors, the gangrene is characterized by a breath of cadaveric odor, and by a characteristic

expectoration, while the *caseous degeneration* maintains the fever of an intermittent type; in this the râles are subcrepitant, and the organic wasting progresses rapidly. In the gray hepatization of purulent infiltration, we have a sub-continuous fever, typhoid state, general wasting, and small and large râles in the inspiratory as well as the expiratory acts.

The diagnosis made in this patient was bilateral fibrinous pneumonia, localized at the base of the inferior lobes, passing into the stage of purulent infiltration. Congestion and œdema of the non-inflamed pulmonary part—dry pericarditis.

This result and course of the fibrinous pneumonia in these two patients is undoubtedly due to their organic constitutions. In one of them, besides old age (65 years), existed a marked vascular atheroma, due to chronic alcoholism, while in the other can be admitted a less resistance of his organism to some special conditions not explanable.

In these cases, it is to be noted how, by the application of dry cups, we can avoid imminent dangers of pulmonary œdema, and how beneficial are the inhalations of medicated compressed air, which not only excite the bronchial mucous membranes to expel the secretions accumulated in the lungs; but while they disinfect the respiratory surface, they prevent the absorption of infecting materials, which besides the local harm, cause without a doubt a great general injury. In these cases the inhalations caused a modification of the expectoration, but they lowered the temperature, and in one of the two patients there is great hope of a complete restoration of the pulmonary parenchyma.

A. LAGORIO.

Chiavari, Italy.

BOOK REVIEWS.

THE ELEMENTS OF PHYSIOLOGICAL PHYSICS. *By* J. MCGREGOR-ROBERTSON, M. A., M. B., C. M., *Muirhead Demonstrator of Physiology, and Assistant to the Professor of Physiology in the University of Glasgow. Illustrated with 219 Engravings on Wood. 16 mo, Cloth, pp. xv—528. Philadelphia:* H. C. LEA'S SON & CO. 1884. *Chicago:* JANSEN, MCCLURG & CO.

Physiology is becoming every day more practical and exact. The time may come when it will favorably compare with mechanics and chemistry in this respect, and this work will contribute to such advancement. Although it is issued in the series of "Manuals for Students of Medicine," there are certainly but few practitioners who would not derive some benefit from its careful perusal. It is true to its title, terse and clear. Its make up is English, and its illustrations very creditable. It is especially adapted to those medical men who did not have the advantage of studying the larger works on Natural Philosophy by Ganot and Deschanel. Part I. deals with Electricity and Magnetism. It is exhaustive, and even enters into the therapeutics of electricity; though it fails in pointing to the origin of animal electric currents, and the organic production of electricity, as observed in torpedo fishes and other animals.

Part II. treats of the Myograph; Part III. of Hydraulics, giving the mechanics of the circulation, *i.e.*, Osmosis, and the Sphygmograph, etc. The subject of Pneumatics follows. The subject of Optics is dealt with at considerable length, and includes the principles of the Polariscope, Ophthalmoscope,

Microscope, Spectroscope, etc. Acoustics is treated of in Part VI.; Heat in Part VII., and Dynamics in Part VIII. It will thus appear that the ordinary order of these subjects has been reversed and partly mixed, without any particular advantage resulting therefrom. The philosophy of the subject is rather meagre, and the abundant suggestions to be drawn from comparative physiology in regard to the subject-matter are still to come. H. D. V.

A MANUAL OF THE MEDICAL BOTANY OF NORTH AMERICA. *By* LAWRENCE JOHNSON, A. M., M. D., *Lecturer on Medical Botany, Med. Dep. University of the City of New York; Member of the Committee of Revision of the Pharmacopœia, etc. 8vo., cloth, pp. xv—292. New York:* WILLIAM WOOD & Co. 1884. *Chicago:* W. T. KEENER.

This is one of the valuable books issued in Wood's Library. Its make up is an improvement on many other books in the series, and the profuse illustrations which adorn it are elegant and true to nature. The nine plates drawn from photographs are admirable, but liable to be spoiled by the carelessness of the printer in omitting to face them with silk paper sheets.

This work, which might have gained by separate publication, will prove a delight to medical and pharmaceutical students in their rambling after botanical specimens, whether tramping the Green Mountains and the Adirondacks, or the iridescent prairies of the West. Part I., or the Introduction to the rest of the volume, is a short sketch of Botany, which would have gained by an addition to it of a key of classification, such as is found in Gray's. As it is, it will nevertheless be of much use to those not familiar with botany. A glossary ends this introduction. The order followed in the rest of the volume is the old one, that is, the reverse of that found in Sachs, and in C. E. Bessey. The aggregation of orders into

cohorts is omitted, though doubtless of great use, especially to beginners, and also to students of biology. Each of the 500 plants treated of is referred to six headings—description, habitat, part used, constituents, preparations, medical properties and uses. The description is complete for each order, and will enable any one to recognize the plant very readily in the field. H. D. V.

HOOPER'S PHYSICIAN'S VADE MECUM: A MANUAL OF THE PRINCIPLES AND PRACTICE OF PHYSICS, WITH AN OUTLINE OF GENERAL PATHOLOGY, THERAPEUTICS AND HYGIENE. Tenth Edition. *Revised by* W. A. GUY, M. B., F. R. S., *and* JOHN HARLEY, M. B., F. L. S. *8 vo, cloth, pp 358. Vol. II. Wood's Library. 1884.*

There is such a thing as stealing property which proves more cumbersome than valuable afterward, or which brings derision to its possessor, as the monk's medals to Gil Bias; but whether the non-existent international copyright was taken *disadvantage* of or not in this case, the book is highly interesting for its blunders. American students are often provoked by the infusions and decoctions advocated in Ziemssen's Cyclopædia, but the British nostrums far exceed these in retrogressive progress. The hypodermic use of sulphate of morphia is spoken of thus: "The subcutaneous use of morphia is often a dangerous proceeding, and the first dose by this method should never exceed one-eighth of a grain, and it is well when we are unacquainted with the constitution of the patient to introduce one-sixtieth grain of atropia previously." The formulæ for pills very frequently call for five gr. pills, which any student here would prefer to have put up in capsules. But these are probably unknown to the writers, just as fluid extracts seem to be. The following is a sample of the treatment of various diseases, and is recommended in cases of acute gas-

tritis: (Please compare with Bartholow.) I. "Six to twelve leeches to the pit of the stomach, and iced water or ice, externally and internally. Free action of the bowels in the absence of diarrhœa, by the use of emollient clysters. The free and frequent use of mucilaginous diluents, such as gruel, linseed tea, or barley-water.

II. "The sickness, restlessness, and pain, are best relieved by soda water and small doses of dilute hydrocyanic acid (m iii to m v) combined with opium." Nothing is said of the most important symptom, the vomiting.

It is time that more attention should be given to valuable literary efforts at home, and that a duty be established on the importation of foreign rags. H. D. V.

BOOKS RECEIVED.

Fifth Annual Report of the State Board of Health, Lunacy and Charity, of Massachusetts. Boston. 1884.

A Text-Book of Hygiene, by Geo. H. Rohe, M. D. Thomas & Evans, Baltimore.

A Manual of Dissection of the Human Body, by Luther Holden. Philadelphia: P. Blakiston, Son & Co.

The Diagnosis and Treatment of Chronic Nasal Catarrh. Three clinical lectures delivered at the College of Physicians and Surgeons, New York, by George Morewood Lefferts, A. M., M. D. St. Louis: Lambert & Co.

Diseases of the Urinary Male Sexual Organs, by William T. Belfield, M. D. October Number Wood's Library of Standard Medical Authors. William Wood & Co., N. Y.

A Manual of the Medical Botany of North America, by Lawrence Johnson, A. M., M. D. New York: William Wood & Co. December Number Wood's Library of Standard Medical Authors.

The Therapeutics of the Respiratory Passages, by Prosser James, M. D. November Number of Wood's Library of Standard Medical Authors. William Wood & Co., N. Y.

The International Encyclopædia of Surgery. Vol. V. William Wood & Co., N. Y.

A System of Practical Medicine by American Authors, edited by Wm. Pepper. Vol. V. Pathology and General Diseases. Lea Bros. & Co., Philadelphia, Pa.

Consumption: Its Nature, Causes, Prevention and Cure, by Jno. Kitchen, M. D. New York: G. P. Putnam's Sons.

Human Osteology, by Luther Holden. Wood's Library of Standard Medical Authors. January, 1885.

(BOUND.)

Practical Anatomy: A Manual of Dissections, by Christopher Heath, F. R. C. S. Philadelphia: P. Blakiston, Son & Co.

Handbook of the Diagnosis and Treatment of Skin Diseases, by Arthur Van Harlingen. Philadelphia: P. Blakiston, Son & Co.

A Handbook of Pathological Anatomy and Histology, with an Introductory Section on Post-Mortem Examinations and the Methods of Preserving and Examining Diseased Tissues, by Francis Delafield, M. D., and T. Mitchell Prudden, M. D. New York: Wm. Wood & Co. Chicago: W. T. Keener.

Kirke's Handbook of Physiology, by W. Morrant Baker and Vincent Dormer Harris. 11th Edition. New York: Wm. Wood & Co. Chicago: W. T. Keener.

The Year Book of Treatment for 1884. A critical review for practitioners of medicine and surgery. Philadelphia: Lea Bros. & Co. Chicago: S. A. Maxwell & Co.

Saint Bartholomew's Hospital Reports, edited by W. S. Church, M. D., and John Langton, F. R. C. S. London: Smith, Elder & Co.

De L'Aphosie et de ses Diverses Formes, par de Dr. Bernard. Publications du Progrés Medical.

Transactions of the American Surgical Association. Vol. II. Edited by J. Ewing Mears. Philadelphia: P. Blakiston, Son & Co.

The Student's Manual of Histology, by Chas. H. Stowell, M. D. Third Edition. Ann Arbor.

The Physician Himself, by D. W. Cathell, M. D. Fourth Edition. Baltimore: Cushing & Bailey.

Insomnia and Other Disorders of Sleep, by Henry M. Lyman, A. M., M. D.. Chicago: W. T. Keener.

The London Medical Student and Other Comicalities, selected and compiled by Hugo Ericham, M. D. Detroit: Free Press Printing Co.

Lectures on Diseases of the Nervous System, especially in Women, by S. Weir Mitchell, M. D. Lea Bros. & Co. Chicago: Jansen, McClurg & Co.

A Manual of Organic Materia Medica, by John M. Maisch, Phar. D. Lea Bros. & Co. Chicago: W. T. Keener.

A Manual for the Practice of Surgery, by Thomas Bryant, F. R. C. S. Henry C. Lea's Son & Co. Chicago: W. T. Keener.

The Science and Art of Surgery, by Jno. Eric Erichsen, F. R. S., LL. D., F. R. C. S. 8th Edition. Lea Bros. & Co. Chicago: Jansen, McClurg & Co.

The Analectic, edited by Walter S. Wells, M. D. G. P. Putnam's Sons. Chicago: S. A. Maxwell & Co.

On Wasting Diseases of Infants and Children, by Eustace Smith, M. D., London. 4th Edition. Wm. Wood & Co. Chicago: W. T. Keener.

Transactions of the 34th Annual Meeting of the Illinois State Medical Society. 1884.

Elements of Practical Medicine, by Alfred H. Carter, M. D., London. D. Appleton & Co. Chicago: Jansen, McClurg & Co.

Elements of Surgical Diognosis, by A. Pearce Gould, M. S., M. B., Lond., F. R. C. S., Eng. Henry C. Lea's Son & Co. Chicago: Jansen, McClurg & Co.

Insanity and Allied Neuroses, by Geo. H. Savage, M. D., M. R. C. P. Henry C. Lea's Son & Co. Chicago: Jansen, McClurg & Co.

Intestinal Obstruction, by Frederick Treres, F. R. C. S. Henry C. Lea's Son & Co. Chicago: W. T. Keener.

A Guide to the Diseases of Children, by Jos. Frederick Goodhart, M. D., F. R. C. P. P. Blakiston, Son & Co. Chicago: W. T. Keener.

Guy's Hospital Reports. Vol. XLII.

One Hundred Years of Publishing. Lea Bros. & Co.

Cocaine and its Use in Ophthalmic and General Surgery, by H. Knapp, M. D. G. P. Putnam's Sons. Chicago: S. A. Maxwell & Co.

A Treatise on Amputation of the Extremities and their Complications, by R. A. Watson, A. M., M. D. P. Blakiston, Son & Co. Chicago: W. T. Keener.

PAMPHLETS RECEIVED.

Memoir on the Nature of Diphtheria. By Drs. H. C. Wood and H. F. Formad.

The Curability of Locomotor Ataxia and the Simulations of Posterior Spinal Sclerosis. By C. H. Hughes, M. D.

Gunshot Wounds of the Small Intestines. By Charles T. Parkes, M. D.

Poisoning by Cannabis Indica. A. B. Cook, M. D.

Premiére Application a Paris en 1883. L'Assainis sement suirant le Systéme Waring par Ernest Pontzen Ingèniem Ciril.

Preventable Blindness. Samuel Theobald, M. D.

Ziemssen's Motor Points of the Human Body—A Guide to Localized Electrization. Herbert Tebbetts, M. D.

Proceedings and Addresses at a Sanitary Convention, held at Ionia, Mich., Dec. 13 and 14, 1883.

Laws of Michigan Relating to Public Health. In force Sept. 8, 1883.

Transactions of the Medical Society of West Virginia, 1884.

Transactions of the Medical and Chirurgical Faculty of Maryland. 86th Annual Session.

Cases of Reflex Cough due to Nasal Polypi: with Remarks. Jno. N. Mackenzie.

Transactions of the American Otological Society—17th Annual Meeting.

Kefyr Kaukasisches Gährungs ferment und Getröuk ans Kuhmilch. Dr. W. Podwyssotzki.

Explanation of the Pathology and Therapeutics of the Nervous System: Especially Epilepsy. J. McF. Gaston, M. D.

Contributions to the Anatomy and Pathology of the Nervous System. Singular Case of Vertebral Disease. Richard Mollenhauer.

Mumps as a Cause of Sudden Deafness. Leartus Connor, M. D.

A Clinical Study of Syphilis of the Eye and its Appendages. Leartus Connor, M. D.

Notes on the Treatment of Trochoma by Jequirity. Leartus Connor, M. D.

Club Foot. Is Excision of the Sorsus Necessary in Children? DeF. Willard, M. D.

Experimentelle Untersuchuagen und Studien siber Contracturen der Stinunbandmuskeln. Von Dr. H. Krause in Berlin.

The Relation of Micro-Organisms to Surgical Lesions. Henry O. Marcy, M. D.

On Branchial Cysts of the Neck. By N. Senn, M. D.

Official Register of Physicians and Midwives (now in practice) to whom Certificates have been issued by the State Board of Health of Illinois. 1884.

Transactions of the Michigan State Medical Society for the year 1884.

The Plaster of Paris Dressing in the Treatment of Fractures. W. O. Daniel, M. D.

A Contribution to the Relations of Orulation and Menstruation. A. Reeves Jackson.

On Oxygen as a Remedial Agent. S. S. Wallian, M. D.

Conspectus of the Medical Colleges of America. Sessions of 1884-5. Illinois State Board of Health.

The Róle of Bacteria in Infectious Diseases. Henry O. Marcy.

A Useful Catheter for the Operation for Vesico-Vaginal Fistula.

School Hygiene in Relation to its Influence upon the Vision of Children, or School Sanitation. A. W. Calhoun, M. D.

Acetate of Lead in Ocular Therapeutics. David DeBeck, M. D.

Des Arantages de L'Hydrotherapie Hirernale. par E. Duval.

Typhoid Fever and Low Water in Wells. Henry B. Baker, M. D.

Proceedings of the Philadelphia Co. Medical Society. Vol. VI.

Medical Jurisprudence in Divorce. Carl H. Von Klein, A. M., M. D.

Experimental Researches on Cicatrization in Blood Vessels after Ligature. N. Senn, M. D.

Seventh Annual Report of the Presbyterian Eye, Ear and Throat Charity Hospital. Baltimore. 1885.

Remarks on Typhoid Fever in the Young. A. Jacobi, M. D.

Inaugural Address delivered before the New York Academy of Medicine. A. Jacobi, M. D.

Catalepsy in a Child Three Years Old. A. Jacobi, M. D.

AMERICAN MEDICAL ASSOCIATION.—The thirty-sixth annual session of the American Medical Association will be held in New Orleans, La., on Tuesday, Wednesday, Thursday and Friday, April 28th, 29th, 30th and May 1st, 1885, commencing on Tuesday, at 11 A. M.

LOCAL NEWS.

CHICAGO MEDICAL SOCIETY.—The thirty-fifth annual business meeting of the Chicago Medical Society was held on Monday evening, April 6th, 1885. The attendance was unusually large and representative.

The following officers, for the ensuing year, were elected by ballot:

President.—Professor C. T. Parkes, M. D.

First Vice-President.—C. W. Purdy, M. D.

Second Vice-President.—Professor James H. Etheridge, M. D.

Treasurer.—Harold N. Moyer, M. D.

Secretary.—Liston H. Montgomery, M. D.

Members of the Committee on Membership and Miscellaneous Business.—Gerhard C. Paoli, M. D.; Professor E. Fletcher Ingals, M. D.; Professor D. A. K. Steele, M. D.

Member of the Committee on Library.—F. C. Hotz, M. D.

Twenty-seven delegates to the annual meeting of the American Medical Association, at New Orleans, were elected.

The retiring President, Professor D. A. K. Steele, M. D., after a brief address,—in which he recommended the incorporation of the Society,—introduced the President-elect, Professor Charles T. Parkes, M. D.

The President-elect, Professor Charles T. Parkes, M. D., after a few appropriate remarks, called the Society to order.

As very general dissatisfaction was expressed with the manner in which the transactions of the Society had been reported during the past two years, the motion was carried, that a Committee on Publication, with power to investigate, should be appointed by the chair, the said committee to report at the next regular meeting of the Society.

The President appointed the following gentlemen: Professor David W. Graham, M.D., Edmund J. Doering, M.D., Robert Randolph, M, D.

Reports of committees were read, and important business transacted, before adjournment. The Transactions will appear in detail in the next issue of the CHICAGO MEDICAL JOURNAL AND EXAMINER.

PERSONAL.

Dr. James Lawrence Little, Professor of Clinical and Operative Surgery in the New York Post-Graduate Medical School, died suddenly in New York, April 4th, at the age of 49.

Dr. Abner Hard, of Aurora, died in that city on March 20th, from blood-poisoning.